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Checklist of freshwater fishes of Iran

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Abstract

This checklist aims to list all the reported Iranian inland fishes. It lists 297 species in 109 genera, 30 families, 24 orders and 3 classes reported from different Iranian basins. However, presence of 23 reported species in Iranian waters needs confirmation by specimens. The most diverse order is Cypriniformes (176 species, 59.3%), followed by Gobiiformes (42 species, 14.1%), Cyprinodontiformes (19 species, 6.4%), and Clupeiformes (11 species, 3.7%). Ninety-five endemic species (32%) in 7 families and 29 exotic species (9.76%) in 11 families are listed here.

Keywords: Fish diversity, Distribution, Taxonomy, Systematics, Endemic species, Exotic species.
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Introduction

The territory of Iran is important from a zoogeographical point of view, as it straddles several major ecoregions of the world including the Palaearctic, Ethiopian and Oriental realms (Nalbant and Bianco 1998; Coad 1998) as well as having some exotic elements from the Nearctic and Neotropical realms (Esmaeili et al. 2010a, b, 2013a, b, 2014a, b, 2017a). Iran is also part of the Irano-Anatolian hot spot with great floristic and faunistic diversity (Esmaeili et al. 2014a-f, 2016a-e; Freyhof et al. 2014, 2015, 2016; Ghasemi et al. 2015; Jouladeh-Roudbar et al. 2015a-c, 2016a-c; Keivany et al. 2016; Eagderi et al. 2017a, b) including fish fauna.

Early works of Johann Jakob Heckel (1846-1849b), Graf Eugen Keyserling (1861, 1863), Filippo de Filippi (1863, 1864, 1865), Aleksandr Mikhailovich Nikol'skii (1897, 1899), and Lev Semenovich Berg (1949) increased our knowledge of fishes of Iran. In more recent years, Coad (1988) listed 155 species in 67 genera, 24 families, 15 orders and 3 classes found in 19 drainage basins of Iran. Later, Coad (1995) listed 150 species in 25 families, 14 orders and 3 classes found in the 19 drainage basins. Fifteen years later Esmaeili et al. (2010a) listed the freshwater fishes of Iran and confirmed the presence of 202 species in 104 genera, 28 families, 17 orders and 3 classes. They also reported 23 species whose presence in Iranian waters needed confirmation by specimens. Additional records, new descriptions and revalidations have increased the number of species known (see Esmaeili et al. 2011a, b, 2012a, b; 2013a,b, 2014a-f; 2015a, b; Teimori et al. 2010, 2011, 2012, 2014, 2015a,b; Gholami et al. 2014, 2015a, b; Kamangar et al. 2014; Sayyadzaedeh et al. 2015a, b, Freyhof et al. 2014, 2015; Mousavi-Sabet and Eagderi 2014, 2015). Jouladeh-Roudbar et al. (2015) listed 257 species in 106 genera, 29 families, 18 orders and 3 classes. According to them, the most diverse order is the Cypriniformes with 162 species or 63.04% of the fauna, followed by Perciformes (32 species, 12.45%), Cyprinodontiformes (17 species, 6.61%) and Clupeiformes (11 species, 4.28%). The most diverse family is the Cyprinidae with 111 confirmed species (43.19%) followed by Nemacheilidae (44 species, 17.12%), Gobiidae (24 species, 9.34%), Cyprinodontidae (14 species, 5.45%), Clupeidae (10 species, 3.89%), Cobitidae (7 species, 2.72%) and Salmonidae (7 species, 2.72%). Abdoli (2016) listed and illustrated 166 and Keivany et al. (2016) 163 species from inland waters of Iran, excluding the Caspian Sea, mostly based on their own collections. Esmaeili et al. (2017a) listed 288 species in 107 genera, 28 families, 22 orders and 3 classes reported from different Iranian basins.

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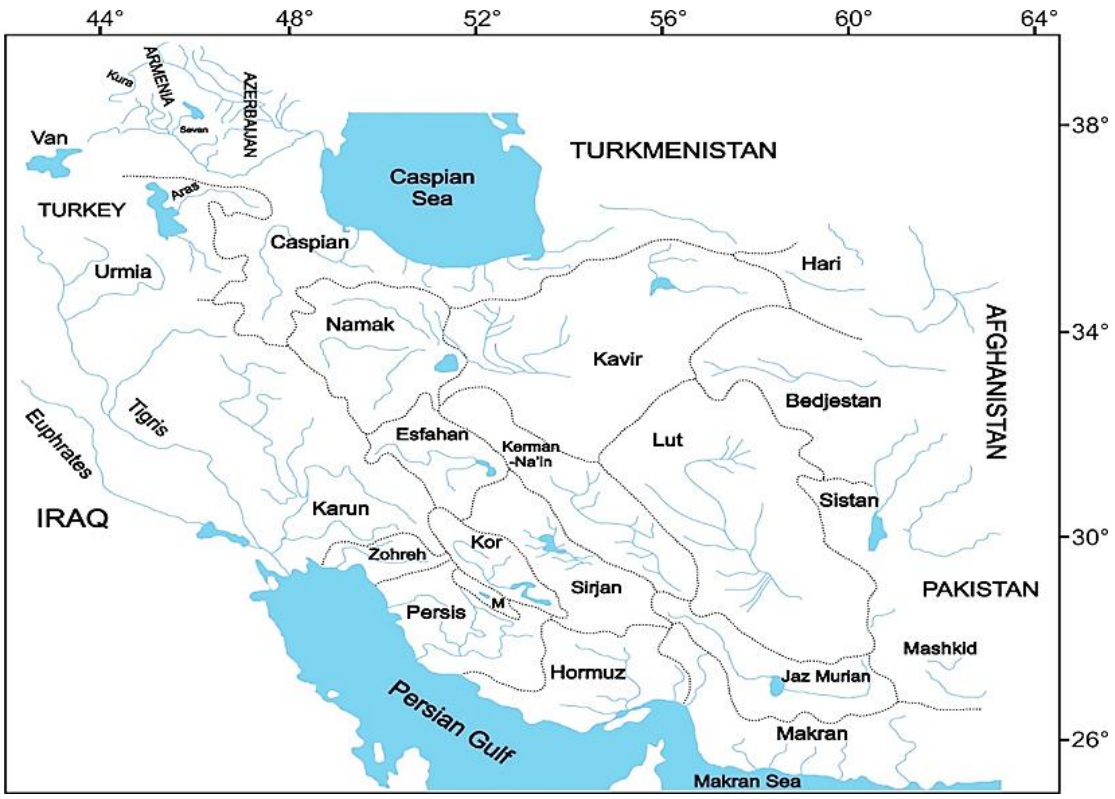

Figure 1. Map of Iran showing different basins (M= Maharlu).

A wide range of articles are now being published on the biology, biogeography and genetic variation of freshwater fishes of Iran (e.g., Borkenhagen et al. 2011; Borkenhagen and Krupp 2013; Ghanbarifardi et al. 2014a, b, 2016; Alwan et al. 2016; Schwarzer et al. 2016; Borkenhagen 2017; Polgar et al. 2017; Masoudi et al. 2018; Sanjarani Vahed et al. 2018; Sayyadzadeh et al. 2018; Teimori et al. 2018). Hence, providing an updated checklist and accurate use of scientific names is essential to communicate research results effectively.

This paper presents a checklist of Iranian freshwater fishes, including endemics, exotics and transplanted species, with notes on taxonomy. Taxonomic status and information regarding type locality follow Eschmeyer et al. (2018), unless otherwise indicated. References for these conclusions, and type localities for synonyms, are mentioned in the present list. The synonyms are given for those recently used in Iran and do not include those dating from the early twentieth century and the nineteenth century [see Coad (1995, 2014) and Esmaeili et al. (2010a, 2014b, 2017a, 2018a) for a fuller treatment of names]. Families are listed following the sequence in Nelson et al. (2016). Genera are listed in alphabetical sequence within each family and species within genera. Order names follow Nelson et al. (2016) and Betancur et al. (2017) although some of them (e.g. Gobiiformes and Cichliformes) have not been fully accepted by some authors. This precautionary approach, however, has its limits.

Material and Methods

Study Area: This checklist has been compiled from the works listed in the references (see selected bibliography) and also by examination of ichthyological collections in Iran, e.g., ZM-CBSU, Zoological Museum of Shiraz University, Collection of Biology Department, Shiraz; CMNFI, Canadian Museum of Nature, Ottawa; BMNH, Natural History Museum, London; NMW, the Naturhistorisches Museum Wien; MZUT, the Istituto e Museo di Zoologia della R. Università di Torino; GUIC, Collection of the Ichthyology Museum, Department of Fisheries Sciences, Faculty of Natural Resources, University of Guilan; IMNRFI-UT, Ichthyological Museum of Natural

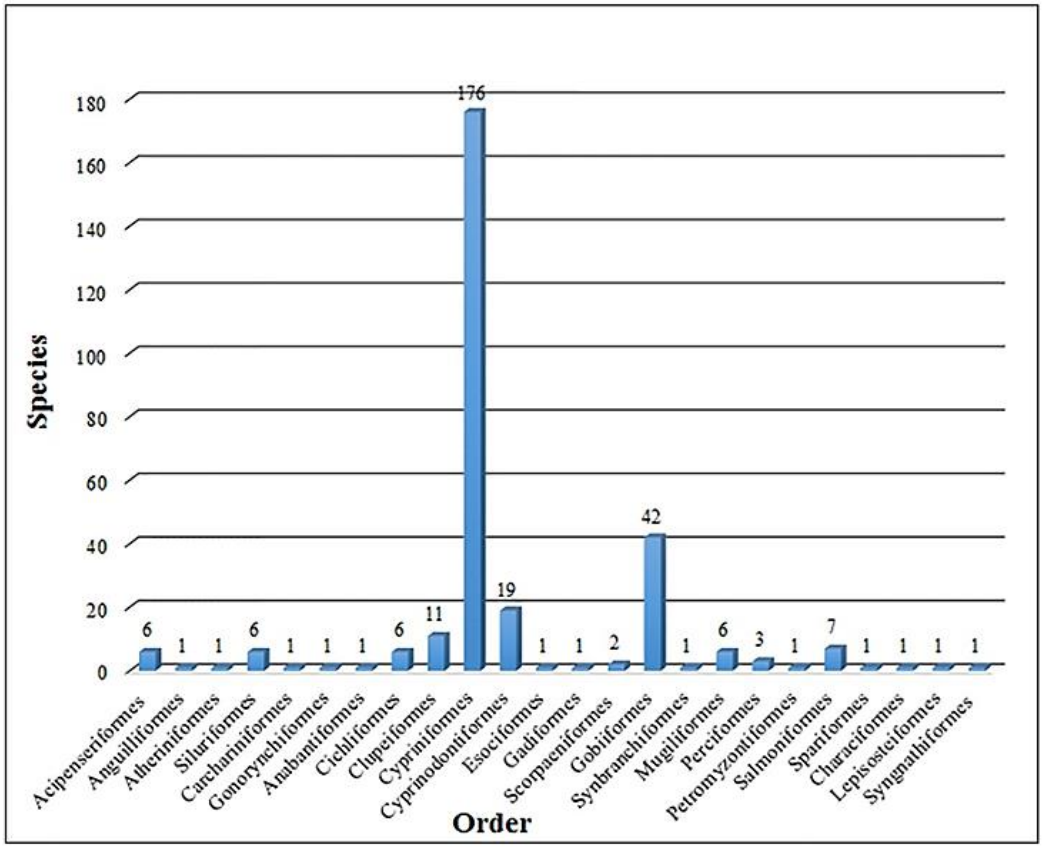

Figure 2. Number of fish species in different fish orders.

Resources Faculty, University of Tehran; IUT-IM, Isfahan University of Technology Ichthyology Museum and extensive field expeditions up to 2017 from different river systems of Iran.

Results

The total confirmed and recently not confirmed species of freshwater fishes of Iran comprise 297 species in 109 genera, 30 families, 24 orders and 3 classes reported from different Iranian basins. However, presence of 23 reported species in Iranian waters needs confirmation by specimens. The most diverse order is the Cypriniformes with 176 species (59.3%), followed by Gobiiformes with 42 species (14.1%), Cyprinodontiformes (19 species, 6.4%), Clupeiformes (11 species, 3.7%), Salmoniformes (7 species, 2.36%), Acipenseriformes, Siluriformes, Mugiliformes and Cichliformes each with 6 species (2.02%), Perciformes (3 species, 1.01%), Scorpaeniformes (2 species, 0.67%) and 13 other orders each with one species (0.34%) (Fig. 2). Moreover, two new described species, *Oxynoemacheilus gyndes* and *O. hanae*, from upper reaches of the Sirvan River, Iraq, might be present in the Iranian part of this river.

Number of fish species in different families is given in Figure 3. The most diverse family is Cyprinidae with 123 reported species (42.7%) followed by Nemacheilidae with 46 species (16%), Gobiidae (42 reported species, 14.6%), Aphaniidae (15, reported species, 5.05%), Clupeidae (11 reported species, 3.70%), Cobitidae and Salmonidae (each with 7 reported species, 2.36%), Acipenseridae, Cichlidae and Mugilidae (each with 6 reported species, 2.02%), Poeciliidae (with 4 reported species, 1.35%), Percidae (with 3 reported species, 1.01%) and Gasterosteidae, Siluridae and Sisoridae (each with 2 reported species, 0.67%). Fifhteen families have 1 reported species (0.34% each). Iran comprises 95 endemic species (32% of total reported species) in 7 families (Fig. 4): Cyprinidae (45, 47.37%), Nemacheilidae (29, 30.53%), Aphaniidae (12, 12.63%), Cichlidae

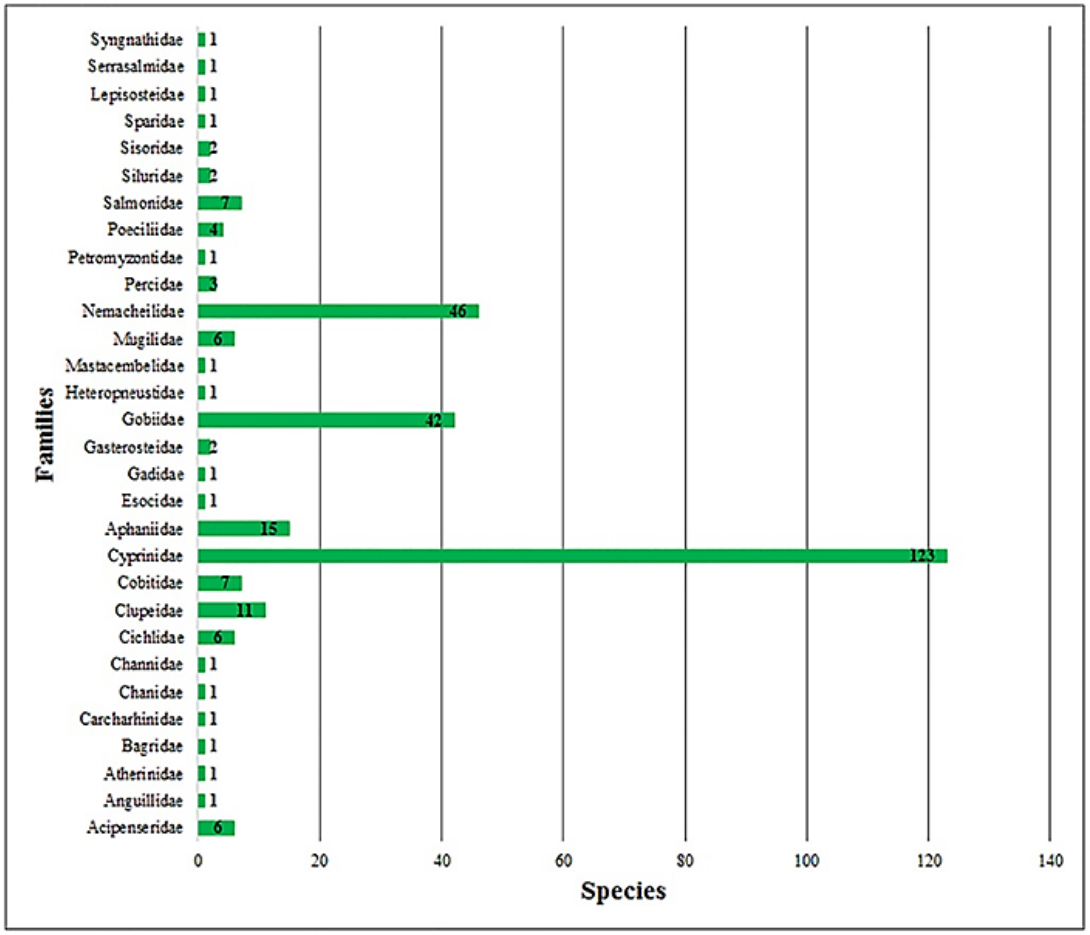

Figure 3. Number of fish species in different families.

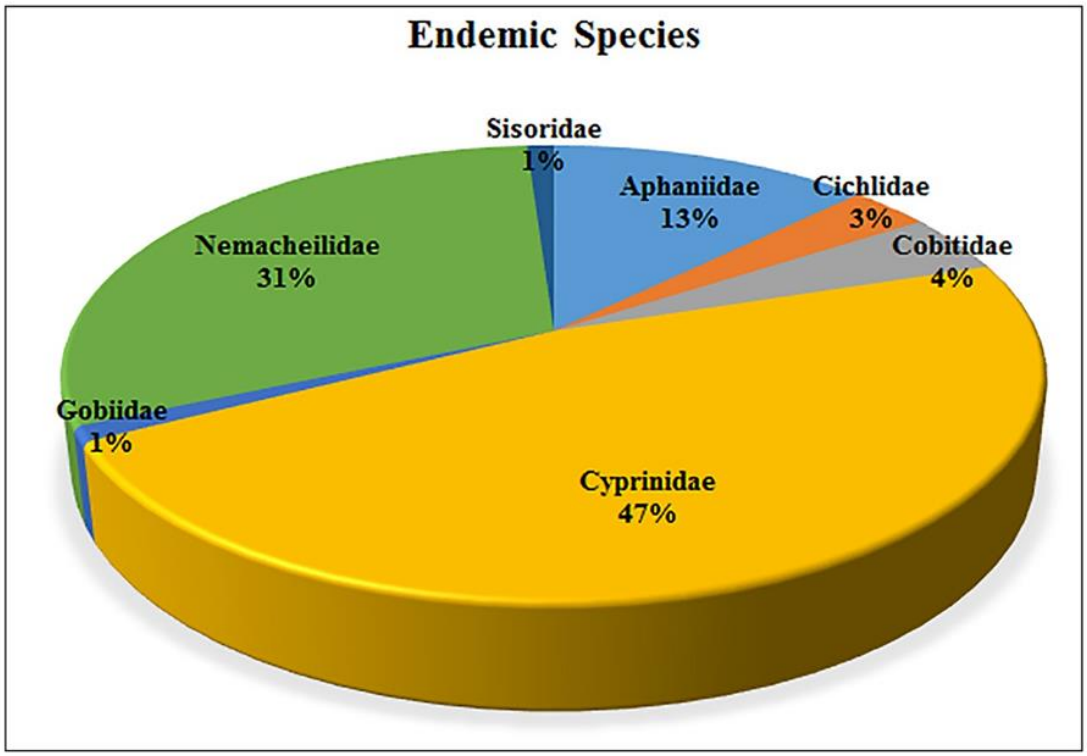

Figure 4. Number of endemic fishes of Iran in different families.

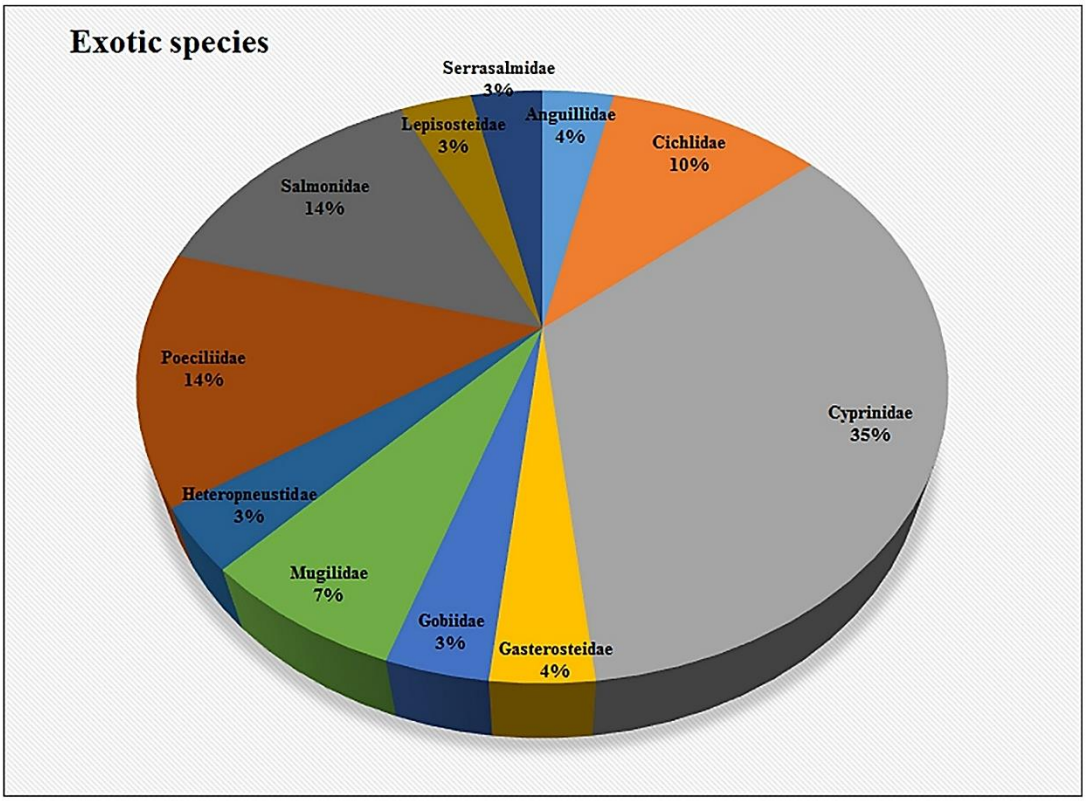

Figure 5. Number of exotic fishes of Iran in different families.

(3, 3.16%), Cobitidae (4, 4.21%), Gobiidae (1, 1.05%) and Sisoridae 1 (1, 1.05%) (Fig. 4). However, it is expected that the number of endemic fishes to be increased as new species are being described. Out of 297 reported species, 23 species in 5 families (Gobiidae, Clupeidae, Acipenseridae, Cyprinidae, Nemacheilidae) require confirmation of their occurrence in Iran.

Twenty-nine exotic species in 11 families are listed from Iranian basins (Fig. 5). Cyprinidae with 10 species (34.50% of the total exotic species) is ranked first followed by the Salmonidae and Poeciliidae (each with 4 species (13. 8%), Cichlidae (with 3 species, 10.3%), Mugilidae (2 species, 6.9%), and 6 families (Anguillidae, Gasterosteidae, Gobiidae, Heteropneustidae, Lepisosteidae and Serrasalmidae) each with only one species or 3.45%. However, there are reports of some other exotic and transplanted species (Coad 1995), which have not been recently collected and cannot be confirmed to be present in Iran. Some species have been established, such as *Carassius auratus*, *C. gibelio*, *Hemiculter leucisculus*, *Pseudorasbora parva*, *Chelon auratus*, *Ch. saliens, Gambusia holbrooki* and *Gasterosteus aculeatus*. Some species are questionably established but numerous in the basin due to stocking, such as *Hypophthalmichthys nobilis*, *H. molitrix* and *Ctenopharyngodon idella.*

We expect more species to be described as new, resurrected from synonymy, recorded for the first time from Iran, or recorded as established introductions. Hence, the fish fauna could exceed those recorded in this checklist. 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 to Iran, ** = 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.

Class Petromyzontida
Order Petromyzontiformes (1 family, 1 genus and 1 species)
Family Petromyzontidae (1 genus and 1 species)
Genus *Caspiomyzon* Berg, 1906
Caspiomyzon Berg [L.S.] 1906:173. Masc. *Petromyzon wagneri* Kessler, 1870. Type by monotypy.
Etymology: *Caspiomyzon*: Composed from Caspian Sea+Greek, myzo= to suckle.
1. ***Caspiomyzon wagneri*** (Kessler, 1870)
Petromyzon wagneri Kessler [K.F.] 1870:207, Pl. 3 (figs. 4-5) [Trudy St.-Peterburgskogo Obscestva Estestvoispy-tatelej= Travaux de la Société des Naturalistes de St. Pétersbourg. v. 1].
EN: Caspian lamprey (Fig. 10).
Type locality: Volga River between Tver [Tvertsa] and Astrakhan, 46°21'N, 48°03'E, Russia.
Distribution: Caspian Sea basin.
Comments: Berg (1931) suggested that this species consists of two races; a normal form (forma typica) and a smaller praecox form (Renaud 2011).

Class Chondrichthyes
Order Carcharhiniformes (1 family, 1 genus and 1 species)
Family Carcharhinidae (1 genus and 1 species)
Genus *Carcharhinus* Blainville, 1816 (1 species)
Carcharhinus (subgenus of *Squalus*) Blainville [H. de] 1816:121. Masc. *Carcharias melanopterus* Quoy and Gaimard, 1824. Genus placed on Official List (Opinion 723).
Etymology: *Carcharhinus*: Greek, karcharos = sharpen + Greek, rhinos = nose.
2. ***Carcharhinus leucas*** (Müller & Henle, 1839): 42 [Systematische Beschreibung der Plagiostomen].
EN: Bull shark.
Type locality: Antilles, western Atlantic.
Distribution: Tigris (Persian Gulf 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 (5 species)
Acipenser Linnaeus [C.] 1758:237. Masc. *Acipenser sturio* Linnaeus, 1758. Type by Linnaean tautonymy. Spelled *Accipenser* by authors.
Etymology: *Acipenser*: Latin, acipenser= sturgeon.
Comment: *Acipenser baerii* Brandt, 1869 has been recently used in some fish farms and research centers.
3. ***Acipenser gueldenstaedtii*** Brandt & Ratzeburg, 1833
Acipenser gueldenstaedtii Brandt [J. F.] and Ratzeburg [J.T.C.] 1833:13, Pl. 3 (figs. 2, 2A-E) [Medizinische Zoologie v. 2].
EN: Russian sturgeon.
Type locality: Caspian Sea and tributaries; Black Sea. No types known.
Distribution: Caspian Sea basin.

4. ***Acipenser nudiventris*** Lovetzky, 1828
Acipenser nudiventris Lovetsky [A.] 1828:78, Pl. 6 (fig. 2) [Novyi Magazin, Estestvennoi Istorii, Fiziki, Khimii

i Svedenii i Svedenii Ekologicheskikh, Izdannyi 1. Dviubskim Part 2].
EN: Ship.

5. ***Acipenser persicus*** Borodin, 1897
Acipenser persicus Borodin [N. A.] 1897:18, figs. [Vestnik Rybopromyshlennosti St. Petersburg v. 12].
EN: Persian sturgeon.
Type locality: Ural River to Ural'sk, Kazakhstan; Kura River, Azerbijan; southern shore of Caspian Sea, Iran.
Distribution: Caspian Sea basin.

6. ***Acipenser ruthenus*** Linnaeus, 1758
Acipenser ruthenus Linnaeus [C.] 1758:237 [Systema Naturae, Ed. X v. 1].
EN: Sterlet.
Type locality: Danube River. Holotype: NRM 96.
Distribution: Caspian Sea basin.
Comment: Reported from the middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

7. ***Acipenser stellatus*** Pallas, 1771
Acipenser stellatus Pallas [P. S.] 1771:460 [Reise durch verschiedene Provinzen des russischen Reiches].
EN: Stellate sturgeon.
Type locality: Volga River at Simbirsk, Caspian Sea, Ural River to Gwje. No types known.
Distribution: Caspian Sea basin.

Genus *Huso* Brandt & Ratzeburg, 1833 (1 species)
Huso Brandt [J.F.] & Ratzeburg [J.T.C.] 1833:3, 349. Masc. *Acipenser huso* Linnaeus, 1758. Type by absolute tautonymy.
Etymology: *Huso*: Latin, huso = swine.
8. ***Huso huso*** (Linnaeus, 1758)
Acipenser huso Linnaeus [C.] 1758:238 [Systema Naturae, Ed. X v. 1].
EN: Beluga /bəˈluːgə/ or European sturgeon.
Type locality: Danube and the rivers of Russia. No types known.
Distribution: Caspian Sea basin.
Comment: *Huso huso caspicus* Babushkin [N. Ya.] 1942:131 [Izvestiia Azerbaidzhankoi nauchno-issledovatel'skpi rybokhoziaistvennoi stantsii. Baku, Russia. No. 7] from Caspian Sea has been considered as a subspecies. No types known.

Order Lepisosteiformes (1 family, 1 genus and 1 species)
Family Lepisosteidae (1 genus and 1 species)
Genus *Atractosteus* Rafinesque, 1820 (1 species)
9. ***Atractosteus spatula*** (Lacepède, 1803)
Lepisosteus spatula Lacepède [B. G. E.] 1803:331, 334, Pl. 6 (fig. 2) [Histoire naturelle des poissons (Lacepéde) v. 5]. No locality [North America]. Holotype (unique): MNHN 0000-5804 (dry, mounted). Type catalog: Bertin 1940:255.
EN: Alligator gar.

Type locality: North America.
Distribution: Tigris (Persian Gulf basin, see Esmaeili et al. 2017b).

Order Anguilliformes (1 family, 1 genus and 1 species)
Family Anguillidae (1 genus and 1 species)
Genus *Anguilla* Schrank, 1798 (1 species)
Anguilla Schrank [F. von P.] 1798:304, 307. Fem. *Muraena anguilla* Linnaeus, 1758. Type by monotypy. Kottelat 2013:37 dates to *Anguilla* Garsault 1764, Pl. 661 with no species;
Etymology: *Anguilla*: Latin, anguilla, -ae = eel.
10. *Anguilla anguilla* (Linnaeus, 1758)**
Muraena anguilla Linnaeus [C.] 1758:245 [Systema Naturae, Ed. X v. 1].
EN: European eel.
Type locality: Europe, Mediterranean Sea, Baltic Sea, northeastern Atlantic [original: "in Europa; maxima in lacu Cornachio Ferrariensi"]. No types known.
Distribution: 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 (7 species)
Etymology: *Alosa*: Latin, alausa = a fish cited by Ausonius and Latin, halec = pickle, dealing with the Greek word hals = salt; it is also the old Saxon name for shad = "alli".
Alosa Linck [H. F.] 1790:35. Fem. *Clupea alosa* Linnaeus, 1758. Type apparently by subsequent absolute tautonymy. Type apparently by subsequent absolute tautonymy; no species initially mentioned, species added by Cuvier 1829:319.
Comment: The Caspian species of *Alosa* were formerly placed in the genus *Caspialosa* Berg, 1915. Svetovidov (1952) synonymised the genus *Caspialosa* Berg, 1915 with *Alosa*. Many subspecies have been described for some species in the Caspian Sea but their status has not been assessed recently.
11. *Alosa braschnikowi* (Borodin, 1904)
Clupea caspiopontica braschnikowi var. Borodin [N. A.] 1904:180 [13], fig. 4 [Vestnik Rybopromyshlennosti St. Petersburg v. 19 (no. 3)].
EN: Caspian marine shad or Brazhnikov's shad.
Type locality: Near Fort Aleksandrovsk, middle Caspian Sea, Kazakhstan.
Distribution: Caspian Sea basin.
IUCN: Not Evaluated.

12. *Alosa caspia* (Eichwald, 1838)
Clupea caspia Eichwald [C.E. von] 1838:134 [Bulletin de la Société Impériale des Naturalistes de Moscou v. 11].
EN: Caspian shad.
Type locality: Caspian Sea.
Distribution: Caspian Sea basin.

13. *Alosa curensis* (Suvorov, 1907)
Clupea (*Alosa*) *kurensis* Suvorov [E. K.] 1907:162 [24], fig. 4 [Trudy Kasp. Exped. 1904 v. 1].

EN: Kura shad.
Type locality: Southern Caspian Sea, near mouth of Kura River, Azerbaijan.
Distribution: Caspian Sea basin.
Comment: Reported from the middle and southern Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

14. ***Alosa kessleri*** (Grimm, 1887)
Clupea kessleri Grimm [O. von] 1887:7, 16 [Sel'skoe khozyaistvo i lesovodstvo 1887 (no. 2)].
EN: Caspian anadromous shad, blackback, or the black-spined herring.
Type locality: Volga River delta, Astrakhan.
Distribution: 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.

15. ***Alosa saposchnikowii*** (Grimm, 1887)
Alosa saposchnikowii Grimm [O. von] 1885:2 [Astrakhanskii Spravochnyi Listok. v. 99 (5 May)].
EN: Saposhnikovi shad.
Type locality: Delta of the Volga River [45.85°N, 47.57°E], Russia.
Distribution: Caspian Sea basin.
Comment: The name is often spelt saposchnikovi, in error, or with a single terminal "i"; Reshetnikov et al. (1997) revert to the original spelling of the specific name.

16. ***Alosa sphaerocephala*** (Berg, 1913)
Clupeonella sphaerocephala Berg [L. S.] 1913:20, Pl. 12 (figs. 1, 1a) [Maerialy k' Poznaniju russkago rybolovstva, g.U.Z.iZ., Department' Zemledelija v. 2 (no. 3)].
EN: Agrakhan shad.
Type locality: Off Tyuleniy Island, north of Agrakhan Bay, Russia, Caspian Sea.
Distribution: Caspian Sea basin.

17. ***Alosa volgensis*** (Berg, 1913)
Clupeonella caspia volgensis Berg [L. S.] (ex Meissner) 1913:34, Pl. 5 [Maerialy k' Poznaniju russkago rybolovstva, g.U.Z.iZ., Department' Zemledelija v. 2 (no. 3)].
EN: Volga shad.
Type locality: Podovskaya Tonya near Cherny Yar, mouth of Volga River, Russia.
Distribution: Caspian Sea basin.
Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Genus *Clupeonella* Kessler, 1877 (3 species)
Clupeonella Kessler [K. T.] 1877:187. Fem. *Clupeonella grimmi* Kessler, 1877. Type by monotypy.
Etymology: *Clupeonella*: Latin, clupea = sardine, derived from Clupeus = shield; diminutive.
18. ***Clupeonella caspia*** Svetovidov, 1941
Clupeonella delicatula caspia Svetovidov [A. N.] 1941:808 [C. R. (Doklady) Acad. Sci. URSS v. 31 (no. 8)].
EN: Caspian tyulka.
Type locality: Volga Delta, Russia, Caspian Sea.

Distribution: Caspian Sea basin.
Comment: Formerly identified as *Clupeonella cultriventris* (Nordmann, 1840).

19. ***Clupeonella engrauliformis*** (Borodin, 1904)
Clupea engrauliformis Borodin [N.A.] 1904:335 [Vestnik Rybopromyshlennosti St. Petersburg v. 19 (no. 6)].
EN: Anchovy tyulka.
Type locality: Near Buinak, Caspian Sea, Russia.
Distribution: Caspian Sea basin.
IUCN: Not Evaluated.

20. ***Clupeonella grimmi*** Kessler, 1877
Clupeonella grimmi Kessler [K. F.] 1877:187, Pl. 6 (fig. 24) [The Aralo-Caspian Expedition].
EN: Southern Caspian sprat, Bigeye kilka.
Type locality: Middle Caspian Sea, 560-1750 feet [80-250 Russian fathoms].
Distribution: Caspian Sea basin.
Comment: *Clupeonella grimmi* was originally described from the central part of the Caspian Sea.

Genus *Tenualosa* Fowler, 1934 (1 species)
Tenualosa (subgenus of *Hilsa*) Fowler [H. W.] 1934:246. Fem. Alosa reevesii Richardson, 1846. Type by original designation.
Etymology: *Tenualosa*: Latin, tenuis = thin + Latin, alausa = a fish cited by Ausonius and Latin, halec = pickle, dealing with the Greek word hals = salt; it is also the old Saxon name for shad = "alli".
21. ***Tenualosa ilisha*** (Hamilton, 1822)
Clupanodon ilisha Hamilton [F.] 1822:243, 382, Pl. 19 (fig. 73) [An account of the fishes found in the river Ganges].
EN: Hilsa.
Type locality: Ganges estuaries, Patua, Goyakarra, Calcutta, and Dhasa, India. No types known.
Distribution: Tigris and Persis; possibly Hormuz.

Order Gonorynchiformes (1 family, 1 genus and 1 species)
Family Chanidae (1 genus and 1 species)
Genus Chanos Lacepède, 1803 (1 species)
Chanos Lacepède [B.G.E.] 1803:395. Masc. *Chanos arabicus* Lacepède, 1803 (= *Mugil chanos* Forsskål, 1775). Type by monotypy. Lacepède's *arabicus* is an unneeded substitute for *M. chanos*.
Etymology: *Chanos*: Greek, chanos, -eos, ous, and chasma, -atos = abyss, mouth opened, inmensity.
22. ***Chanos chanos*** (Forsskål, 1775)
Mugil chanos Forsskål [P. S.] 1775:74, xiv [Descriptiones animalium (Forsskål)].
EN: Milkfish.
Type locality: Jeddah, Saudi Arabia, Red Sea.
Distribution: Tigris, Persis, Hormuz and Makran.

Order Cypriniformes (3 families, 51 genera and 176 species, 2 unconfirmed)
Family Cyprinidae Rafinesque, 1815 (42 genera and 123 species, 1 unconfirmed)
Comment: During the last few years, 3 species of Indian major carps, *Cirrhinus mrigala* (Hamilton, 1822), *Labeo*

catla (Hamilton, 1822) and *Labeo rohita* (Hamilton, 1822) have been brought to Iran to increase fish production. Till date, they have been only reported from the research centers in the south and north of Iran, however, due to their successful production, tremendous care should be taken to avoid their introduction to natural water bodies.

Genus *Abramis* Cuvier, 1816 (1 species)

Abramis Cuvier [G.] 1816:194. Fem. *Cyprinus brama* Linnaeus, 1758. Type by subsequent designation. Earliest subsequent designation not located.

Etymology: *Abramis*: Greek, abramis, -idos = a fish.

23. *Abramis brama* (Linnaeus, 1758)

Cyprinus brama Linnaeus [C.] 1758:326 [Systema Naturae, Ed. X v. 1].

EN: Common bream.

Type locality: European lakes.

Distribution: The Caspian Sea basin and introduced to the Urmia Lake basin.

Genus *Acanthobrama* Heckel, 1843 (4 species)

Acanthobrama Heckel [J. J.] 1843:1033. Fem. *Acanthobrama marmid* Heckel, 1843. Type by subsequent designation. Type designated by Bleeker 1863:31 and 1863:210.

Etymology: *Acanthobrama*: Greek, akantha = thorn + old French breme, bresme, a fresh water fish.

Comment: Genus *Acanthalburnus* Berg, 1916 is a synonym.

24. *Acanthobrama marmid* Heckel, 1843

Acanthobrama marmid Heckel [J.J.] 1843: 1075 [85] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].

EN: Mesopotamian bream.

Type locality: Kucik River at Aleppo (=Halab), Syria.

Distribution: Tigris.

25. *Acanthobrama microlepis* (De Filippi, 1863)

Abramis microlepis De Filippi [F.] 1863:393 [Archivio per la Zoologia, l'Anatomia e la Fisiologia. v. 2].

EN: Blackbrow bleak.

Type locality: *Abramis microlepis* (De Filippi, 1863) was originally described from Kura River near Tiflis [T'bilisi], Georgia, and Eurasia. Holotype (unique).

Distribution: Caspian Sea basin.

26. *Acanthobrama persidis* (Coad, 1981)*

Pseudophoxinus persidis Coad [B. W.] 1981:2058, fig. 1 [Canadian Journal of Zoology v. 59 (no. 11)].

EN: Persian bleak, Kor bleak.

Type locality: *Pseudophoxinus persidis* Coad, 1981 was originally described from Upper Shur River drainage, near Darab on Darab-Fasa road, 28°45.5'N, 54°24'E, Iran.

Distribution: Kor River, Persis, Maharlu and Hormuz basins.

Comment: Perea et al. (2010) and Teimori et al. (2015b) place *Petroleuciscus persidis* in Acanthobrama based on the molecular evidence which contradicts morphology. No recent record from Hormuz.

27. *Acanthobrama urmianus* (Günther, 1899)*

Abramis urmianus Günther [A.] 1899:389, Pl. 23 (fig. A) [The Journal of the Linnean Society of London. Zoology v. 27 (no. 177)].

EN: Urmia bream.

Type locality: *Abramis urmianus* Günther, 1899 was described from Ocksa River and Urmi River, Iran.
Distribution: Lake Urmia basin.

Genus *Alburnoides* Jeitteles, 1861 (12 species)
Alburnoides Jeitteles [L.H.] 1861:325. Masc. *Alburnus maculatus* Kessler, 1859. Type by monotypy.
Etymology: *Alburnoides*: From the city of Al Bura, where the fish was known + particle Greek, oides = similar.
Comment: Revision is needed to clarify status of some recent described species. *Alburnoides* cf. *taeniatus* (Kessler, 1874) was recently reported from the Hari (Tedzhen) River, Iran (Jouladeh-Roudbar et al. 2016a).
28. *Alburnoides coadi* Mousavi-Sabet, Vatandoust & Doadrio, 2015*
Alburnoides coadi Mousavi-Sabet [H.], Vatandoust [S.] & Doadrio [I.] 2015:308, figs. 9-11 [Caspian Journal of Environmental Sciences v. 13 (no. 4)].
EN: Kavir spirlin, Coad's riffle minnow.
Type locality: Nam River, Hable River drainage, Kavir basin, Tehran Province, Iran, 35°43'N, 52°39'E.
Distribution: Kavir basin.

29. *Alburnoides damghani* Jouladeh-Roudbar, Eagderi, Esmaeili, Coad & Bogutskaya 2016*
Alburnoides damghani Jouladeh-Roudbar [A.], Eagderi [S.], Esmaeili [H.R.], Coad [B.W.] & Bogutskaya [N.G.] 2016:165, figs. 3-6 [ZooKeys No. 579].
EN: Damghan spirlin, Damghan riffle minnow.
Type locality: Cheshmeh Ali, Damghan River tributary, near Damghan City, Dasht-e Kavir basin, Semnan Province, Iran, 36°16'45.6"N, 54°05'01.6"E, elevation 1569 meters.
Distribution: Kavir basin.

30. *Alburnoides eichwaldii* (De Filippi, 1863)
Alburnus eichwaldii De Filippi [F.] 1863:392 [18] [Archivio per la Zoologia, l'Anatomia e la Fisiologia. v. 2].
EN: South western Caspian spirlin, Eichward's riffle minnow.
Type locality: Kura River near Tiflis [T'bilisi], Georgia.
Distribution: Caspian Sea basin.

31. *Alburnoides holciki* Coad & Bogutskaya, 2012
Alburnoides holciki Coad [B.W.] & Bogutskaya [N.G.] 2012:44, figs. 1-2 [Zootaxa No. 3453].
EN: Hari spirlin, Holcik's riffle minnow (Figs. 21, 22).
Type locality: Hari River at Herat, 34°20'N, 62°12'E, Afghanistan.
Distribution: Hari (Tedzhen) River basin.
IUCN: Not Evaluated.

32. *Alburnoides idignensis* Bogutskaya & Coad, 2009*
Alburnoides idignensis Bogutskaya [N.G.] & Coad [B. W.] 2009:166, fig. 13 [Zoosystematica Rossica v. 18 (no. 1)].
EN: Tigris spirlin, Tigris riffle minnow.
Type locality: Bid Sorkh River between Sahneh and Kandgavar, Gav Masiab River drainage, ca. 34°23'N, 47°52'E, Kermanshahan, Iran.
Distribution: Tigris.

33. ***Alburnoides namaki*** Bogutskaya & Coad, 2009*
Alburnoides namaki Bogutskaya [N.G.] & Coad [B.W.] 2009:159, fig. 11 [Zoosystematica Rossica v. 18 (no. 1)].
EN: Namak spirlin, Namak riffle minnow.
Type locality: Qanat at Taveh, 35°07'N, 49°02'E, Hamadan, Iran.
Distribution: Namak Lake basin.

34. ***Alburnoides nicolausi*** Bogutskaya & Coad, 2009*
Alburnoides nicolausi Bogutskaya [N.G.] & Coad [B.W.] 2009:163, fig. 12 [Zoosystem-atica Rossica v. 18 (no. 1)].
EN: Seimareh spirlin, Karkheh spirlin, Nicholas' riffle minnow.
Type locality: Stream in Simareh River drainage, 5 kilometers south of Nurabad, 34°03'30"N, 47°57'30"E, Lorestan, Iran.
Distribution: Tigris.

35. ***Alburnoides parhami*** Mousavi-Sabet, Vatandoust & Doadrio, 2015*
Alburnoides parhami Mousavi-Sabet [H.], Vatandoust [S.] & Doadrio [I.] 2015:315, figs. 13-15 [Caspian Journal of Environmental Sciences v. 13 (no. 4)].
EN: Atrak spirlin, Parham riffle minnow.
Type locality: Baba-Aman Stream, Atrak River drainage, south-eastern Caspian Sea basin, Khorasan-e-Shomali Province, Iran, 37°29'N, 57°26'E. Holotype: VMFC-ALP3-H.
Distribution: Caspian Sea basin.

36. ***Alburnoides petrubanarescui*** Bogutskaya & Coad, 2009*
Alburnoides petrubanarescui Bogutskaya [N. G.] & Coad [B. W.] 2009:154, fig. 10 [Zoosystematica Rossica v. 18 (no. 1].
EN: Urmia spirlin, Banarescu's riffle minnow.
Type Locality: Qasemlou Chay, Urmia Lake basin, ca. 37°21'N, 45°09'E, Azarbaijan-e Bakhtari (West Azarbaijan, Iran.
Distribution: Lake Urmia basin.

37. ***Alburnoides qanati*** Coad & Bogutskaya, 2009*
Alburnoides qanati Coad [B. W.] & Bogutskaya [N. G.] 2009:68, figs. 1-2 [ZooKeys No. 13].
EN: Kor spirlin, Qanat spirlin.
Type locality: At source and along stream of a qanat at Naqsh-e Rostam, Pulvar (Sivand) River system, 29°59'30"N, 52°54'00"E, Fars, Iran.
Distribution: Kor River basin.

38. ***Alburnoides samiii*** Mousavi-Sabet, Vatandoust & Doadrio, 2015*
Alburnoides samiii Mousavi-Sabet [H.], Vatandoust [S.] & Doadrio [I.] 2015:321, figs. 17-19 [Caspian Journal of Environmental Sciences v. 13 (no. 4)].
EN: Sefidrud spirlin, Samii riffle minnow.
Type locality: Iran, Guilan Province, upper Sefid River drainage, Tutkabon Stream.
Distribution: Caspian Sea basin.

IUCN: Not Evaluated.

39. ***Alburnoides tabarestanensis*** Mousavi-Sabet, Anvarifar & Azizi, 2015*
Alburnoides tabarestanensis Mousavi-Sabet [H.], AnvariFar [H.] & Azizi [F.] 2015:146, figs. 1-3 [aqua, International Journal of Ichthyology v. 21 (no. 3)].
EN: Tajan spirlin.
Type locality: Tajan River in the southern Caspian Sea basin, Mazandaran Province, northern Iran.
Distribution: Tajan River, Caspian Sea basin.

Genus *Alburnus* Rafinesque, 1820 (8 species)
Alburnus Rafinesque [C. S.] 1820:236. Masc. *Cyprinus alburnus* Linnaeus, 1758. Type by absolute tautonymy.
Etymology: *Alburnus*: From the city of Al Bura, where the fish was known.
Comment: Genus proposed for European species, but no species mentioned; first addition of species not researched. Also appeared in Rafinesque 1820:46 (Dec.). *Chalcalburnus* Berg, 1933 is a synonym. Several members of this genus require revision. Recently, the taxonomic status of five nominal species of cyprinid fishes from the Middle East is reviewed by applying morphological and molecular (COI) characters (see Mohammadian-Kalat et al. 2017). Based on Mohammadian-Kalat et al. (2017), *Alburnus* populations from the Iranian Lake Namak basin, the Zayandeh River drainage and the upper Karun River drainage (Tigris) are identified as *A. doriae*. *Petroleuciscus esfahani*, from the Zayandeh River, as well as *Alburnus amirkabiri*, from the Lake Namak basin, are synonyms of *A. doriae*. Molecular data support treating *Alburnus mossulensis* and *A. sellal* as a single species. As First Revisers, Mohammadian-Kalat et al. (2017) gave precedence to *A. sellal* over *A. mossulensis*.
40. ***Alburnus atropatenae*** Berg, 1925*
Alburnus atropatenae Berg [L. S.] 1925:213 [Ezhegodnik. Zoologicheskogo Muzeya Imperatorskoi Akademii Nauk SSSR v. 26].
EN: Urmia bleak, Urmia shemaya.
Type Locality: Rivers of Lake Urmia, Iran.
Distribution: Lake Urmia basin.

41. ***Alburnus caeruleus*** Heckel, 1843
Alburnus caeruleus Heckel [J. J.] 1843:1084 [94] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Black spotted bleak.
Type Locality: Aleppo, Syria.
Distribution: Tigris (Persian Gulf basin).
Comment: Records from Maroon River (Jarrahi River system) and Chardaval River (Karkheh river system), both in Tigris River (Zareian et al. 2015) and Hamadan Province by Keyvan Abbasi.

42. ***Alburnus chalcoides*** (Güldenstaedt, 1772)
Cyprinus chalcoides Güldenstädt [J. A. von] 1772:540, Pl. 16 [Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae v. 16 (for 1771)].
EN: Caspian shemaya.
Type locality: Rivers of southern Russia. No types known. Type locality of the subspecies *iranicus* Near Shakhi, Talar River basin, entering Caspian Sea, Iran.
Distribution: Caspian Sea basin.

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

43. ***Alburnus doriae*** De Filippi, 1865*
Alburnus doriae De Filippi [F.] 1865:360 [Note di un viaggio in Persia nel 1862] [Probably south of] Shiraz, Iran. Lectotype: MZUT N.720. Paralectotypes: MSNG 9102 (6, 5 not this species). Type catalog: Tortonese 1940:140. Lectotype apparently established by Tortonese 1934 by use of holotype (see Coad 1985:173); also designated by Tortonese 1961:187.
EN: Doria bleak.
Type locality: dintorni di Schiraz (around Shiraz) based on fishes collected by Giacomo Doria in 1862.), Iran (but see Mohammadian-Kalat et al. 2017).
Distribution: Esfahan, Namak, Tigris.
Comment: *Alburnus maculatus* Keyserling, 1861:16, *Petroleuciscus esfahani* Coad and Bogutskaya 2010 and *Alburnus amirkabiri* Mousavi-Sabet, Vatandoust, Khataminejad, Eagderi, Abbasi, Nasri, Jouladeh and Vasil'eva 2015 are synonyms.

44. ***Alburnus filippii*** Kessler, 1877
Alburnus filippii Kessler [K. F.] 1877:153 [The Aralo-Caspian Expedition].
EN: Kura bleak.
Type locality: Upper Kura River near Tbilisi, Georgia.
Distribution: Caspian Sea basin.

45. ***Alburnus hohenackeri*** Kessler, 1877
Alburnus hohenackeri Kessler [K. F.] 1877:156 [The Aralo-Caspian Expedition].
EN: North Caucasian bleak, Persian bleak.
Type locality: Karabakh, Azerbaijan.
Distribution: Native in the Caspian Sea basin and translocated to other basins in Iran (Tigris, Hari, Urmia, Sistan and possibly in Makran, see Zareian et al. 2013).
Comments: Previously the wide-ranging species *Alburnus alburnus* (Linnaeus, 1758) was identified as the taxon in Iran. *Alburnus charusini* Herzenstein, 1889 is a synonym.

46. ***Alburnus sellal*** Heckel, 1843
Alburnus sellal Heckel [J. J.] 1843:1082 [92] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)] Kueik [Qwaiq River], Aleppo, Syria. Syntypes: NMW 55664-67 (1, 2, 4, 2); RMNH 2666 [ex NMW] (2). Illustrated by Heckel 1843, Pl. 11 (fig. 1).
EN: Mesopotamian bleak.
Type locality: Kueik [Qwaiq River], Aleppo, Syria.
Distribution: Tigris River, Zohreh, Persis and Hormuz.
Comment: *Alburnus mossulensis* Heckel, 1843 is a synonym (see Mohammadian-Kalat et al. 2017).

47. ***Alburnus zagrosensis*** Coad, 2009*
Alburnus zagrosensis Coad [B. W.] 2009:64, fig. 1 [Zoology in the Middle East v. 48].
EN: Zagros bleak.
Type locality: stream 3 kilometers east of Boldaji, upper Karun River basin, 31°55'N, 51°05'E, Zagros Mountains, Chahar Mahall va Bakhtiari, Iran.

Distribution: Tigris (Persian Gulf basin).
Comment: Very closely related to *Alburnus sellal* based on COI and cytb sequences data.

Genus *Arabibarbus* Borkenhagen, 2014 (1 species)
Arabibarbus Borkenhagen [K.] 2014:1183. *Arabibarbus hadhrami* Borkenhagen, 2014. Type by original designation.
Etymology: The name *Arabibarbus* is an allusion to the geographic range of the genus.
48. *Arabibarbus grypus* (Heckel, 1843)
Barbus grypus Heckel [J. J.] 1843:1048 [58] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Shirbot.
Type locality: Tigris River, Mosul, Iraq.
Distribution: Tigris, Persis and Hormuz.
Comment: *Labeobarbus kotschyi* Heckel, 1843 and *Tor grypus* (Heckel, 1843) are synonyms.

Genus *Ballerus* Heckel, 1843 (1 species)
Ballerus Heckel [J. J.] 1843:1033. Masc. Cyprinus ballerus Linnaeus, 1758. Type by monotypy (also by absolute tautonymy).
49. *Ballerus sapa* (Pallas, 1814)
Cyprinus sapa Pallas [P.S.] 1814:328 [Zoographia Rosso-Asiatica v. 3].
EN: White-eye bream.
Type locality: Volga River and tributaries.
Distribution: Caspian Sea basin.
Comment: *Abramis sapa bergi* Belyaev, 1929 is the southern Caspian Sea subspecies but not recognized by some authors. Formerly placed in the genus *Abramis* Cuvier, 1816 but Perea et al. (2010) place this species in *Ballerus*.

Genus *Bangana* Hamilton, 1822 (1 species)
Bangana (subgenus of *Cyprinus*) Hamilton [F.] 1822:277, 385. Fem. *Cyprinus dero* Hamilton, 1822. Type by subsequent designation. Treated as feminine, Art. 30.2.4. Type designated by Jordan 1917:155.
Etymology: *Bangana*: from the Bengali vernacular banggana, used in reference to “most species” of *Mugil* (Mugilidae) and certain cyprinids, all of which possess an “elevated longitudinal ridge on the middle of the lower jaw”.
50. *Bangana dero* (Hamilton, 1822)
Cyprinus dero Hamilton [F.] 1822:277, 385, Pl. 22 (fig. 78) [An account of the fishes found in the river Ganges].
EN: Kalabans.
Type locality: Brahmaputra River, India. No types known.
Distribution: Mashkid River basin (see Esmaeili et al. 2013a).

Genus *Barbus* Cuvier, 1816 (3 species)
Cuvier [G.] and Cloquet [H.] 1816:4. Masc. *Cyprinus barbus* Linnaeus, 1758. Type by absolute tautonymy. Fowler (MS) attributes to Cuvier and Cloquet (Dict. Nat., ed. 2, v. 4, suppl.) as prior to Cuvier 1816; see also Hoedeman 1958.
Etymology: *Barbus*: Latin, barbus = barbel.
Comment: Several members of this genus require revision.

51. ***Barbus cyri*** De Filippi, 1865
Barbus cyri De Filippi [F.] 1865:358 [Note di un viaggio in Persia nel 1862].
EN: Kura barbel.
Type locality: Kura River near Tiflis, Georgia.
Distribution: Caspian Sea and Urmia basins.
Comment: Berg (1948-1949) refers Caspian Sea basin specimens to *Barbus lacerta cyri*. It recognized as a full species by Naseka and Bogutskaya (2009) and Levin et al. (2012).

52. ***Barbus lacerta*** Heckel, 1843
Barbus lacerta Heckel [J.J.] 1843:1044 [54] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Tigris barbel.
Type locality: Kueik [Qwaik] River near Aleppo, Syria.
Distribution: Tigris (Persian Gulf basin).

53. ***Barbus miliaris*** De Filippi, 1863
Barbus miliaris De Filippi [F.] 1863:393 [Archivio per la Zoologia, l'Anatomia e la Fisiologia. v. 2].
EN: Namak barbell.
Type locality: Near Tehran, Iran.
Distribution: Namak Lake and Kavir basins.
Comment: Re-description of this species is provided by Khaefi et al. (2017).

Genus *Barilius* Hamilton, 1822 (1 species)
Barilius (subgenus of *Cyprinus*) Hamilton [F.] 1822:266, 384. Masc. *Cyprinus barila* Hamilton, 1822. Type by subsequent designation. Type designated by Bleeker 1863:203, 1863:263 and 1863:28.
Etymology: Barilius: from barila, a vernacular Bengali name for the species *B. barila*, the type species.
54. ***Barilius mesopotamicus*** Berg, 1932
Barilius mesopotamicus Berg [L.S.] 1932:333, fig. 1 [Zoologischer Anzeiger v. 100 (nos 11/12)].
EN: Mesopotamian barilius.
Type locality: Gawi River, Tigris River basin, 33°20'N, 46°20'E, Iraq.
Distribution: Tigris and Persis (Persian Gulf basin).

Genus *Blicca* Heckel, 1843 (1 species)
Blicca Heckel [J. J.] 1843:1032. Fem. *Cyprinus blicca* Bloch 1782. Type by monotypy (also by absolute tautonymy).
55. ***Blicca bjoerkna*** (Linnaeus, 1758)
Cyprinus bjoerkna Linnaeus [C.] 1758:326 [Systema Naturae, Ed. X v. 1].
EN: Silver bream.
Type locality: Greifswald, Mecklenburg-Vorpommern, 54°05'N, 13°23'E, Germany.
Distribution: Caspian Sea basin.
Comment: *Blicca bjoerkna transcaucasica* Berg, 1916 from the lower reaches of the Kura River, Araks and Lenkoran District is a valid subspecies or a synonym according to authors.

Genus *Cabdio* Hamilton, 1822 (1 species)
Cabdio (subgenus of *Cyprinus*) Hamilton [F.] 1822:333, 392. Masc. *Cyprinus* (*Cabdio*) *jaya* Hamilton 1822.

Type by subsequent designation. Type designated by Jordan 1917:115.

56. *Cabdio morar* (Hamilton, 1822)

Cyprinus morar Hamilton [F.] 1822:264, 384, Pl. 31 (fig. 75) [An account of the fishes found in the river Ganges].

EN: Morar.

Type locality: Yamuna and Tista rivers, India. No types known.

Distribution: Makran and Mashkid (see Esmaeili et al. 2015b).

Comment: *Aspidoparia morar* (Hamilton, 1822) is a synonym.

Genus *Capoeta* Valenciennes, 1842 (18 species)

Fem. *Cyprinus capoeta* Güldenstädt, 1773. Type by absolute tautonymy, not amphibia by subsequent designation of Bleeker 1863:200. *Scaphiodon* Heckel [J.J.] 1843:1020 is a synonym.

Etymology: *Capoeta*: The local vernacular name "kapwaeti" used in Georgia and Azerbaikhan

Several members of this genus are under revision. Revision of this genus is given by Alwan et al. (2016b); Jouladeh-Roudbar et al. (2017) and Zareian et al. (2017, 2018a, b).

57. *Capoeta aculeata* (Valenciennes, 1844)*

Chondrostoma aculeatum Valenciennes [A.] in Cuvier and Valenciennes 1844:408 [Histoire naturelle des poissons v. 17].

EN: Common large scale scraper.

Type locality: Probably the Pulvar (= Sivand) River, near Persepolis, Fars, Iran.

Distribution: Namak Lake, Kavir, Kerman-Na'in, Esfahan, Kor and Tigris.

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

58. *Capoeta anamisensis* Zareian, Esmaeili & Freyhof, 2016*

Capoeta anamisensis Zareian [H.], Esmaeili [H. R.] & Freyhof [J.] 2016:133, figs. 3-5, 6a, 7a and 8 [Zootaxa 4083 (no. 1)].

EN: Minab scraper.

Type locality: Iran: Hormuzgan province. Moradabad River at Ziarat Ali, Minab River Drainage.

Distribution: Makran (Zareian et al. 2016).

59. *Capoeta birunii* Zareian & Esmaeili 2017*

Capoeta birunii Zareian [H.] & Esmaeili [H. R.] 2016:261, figs. 27-28, [Iranian Journal of Ichthyology (4; no. 3)]. Daran River near Daran, Zayandehrud basin, Esfahan Province, Iran, 32˚49′25.8″N 50˚25′47.4″E. Holotype: ZM-CBSU Z650, 141mm SL; Paratypes: ZM-CBSU Z651-660, 10, 90-165mm SL.

EN: Esfahan scraper.

Type locality: Iran: Esfahan province. Daran River near Daran, Zayandehrud basin.

Distribution: Zayandehrud basin (Zareian and Esmaeili 2017).

60. *Capoeta buhsei* Kessler, 1877*

Capoeta buhsei Kessler [K.F.] 1877:85 [The Aralo-Caspian Expedition].

EN: Namak scraper.

Type locality: Probably Karaj River, near Tehran.

Distribution: Namak Lake basin.

Comment: *Varicorhinus nikolskii* Derzhavin, 1929 from Karaj River, 30 kilometers from Teheran, Iran is a synonym.

61. ***Capoeta coadi*** Alwan, Zareian & Esmaeili, 2016*
Capoeta coadi Alwan [N. H.], Zareian [H.] & Esmaeili [H. R.] 2016:158, figs. 1-4 [ZooKeys No. 572].
EN: Karun scraper, Coad's scraper.
Type locality: Karun River drainage, Beshar (Bashar) River at Tale Gah village, Kohgiluyeh and Boyer Ahmad.
Distribution: Karun River drainage (Tigris, Persian Gulf basin).

62. ***Capoeta ferdowsii*** Jouladeh-Roudbar, Eagderi, Murillo-Ramos, Ghanavi & Doadrio 2017*
Capoeta ferdowsii Jouladeh-Roudbar [A.], Eagderi [S.], Murillo-Ramos [L.], Ghanavi [H. R.] & Doadrio [I.] 2017:138, figs. 3-6, 8 [FishTaxa v. 2 (no. 3)]. Tang-e Shiv River at Bekr sofla village, Zohreh River drainage, Tigris River basin, Fars Province, Iran, 30°25'26"N, 51°21'55"E. Holotype: IMNRF-UT 1111-61. Paratypes: IMNRF-UT.
EN: Zohreh scraper, Ferdowsi scraper.
Type locality: Karun River drainage, Beshar (Bashar) River at Tale Gah village, Kohgiluyeh and Boyer Ahmad.
Distribution: Zohreh River drainage (Persian Gulf basin).

63. ***Capoeta fusca*** Nikol'skii, 1897
Capoeta fusca Nikolskii [A.M.] 1897:340 [Ezhegodnik. Zoologicheskogo Muzeya Akademii Nauk SSSR. v. 1].
EN: Desert scraper.
Type locality: Berg (1949) gives the locality in Russian as "Mondekhi, northern periphery of the Bajistan Salt Desert in southeast Khorasan". This locality is possibly Mandehi or Miandehi at 34°53'N, 58°38'E.
Distribution: Hari River, Kavir, Bedjestan, Sistan and Lut.
Comment: *Capoeta nudiventris* Nikol'skii, 1897 is a synonym.

64. ***Capoeta heratensis*** (Keyserling 1861)
Scaphiodon heratensis Keyserling [E. von] 1861:11 [15], Pl. 6 [Zeitschrift für die Gesammten Naturwissenschaften v. 17 (no. 1)].
EN: Hari Scraper.
Type locality: Heri-rud at Herat, Afghanistan. No types saved.
Distribution: Hari-rud River basin.

65. ***Capoeta gracilis*** (Keyserling, 1861)*
Scaphiodon gracilis Keyserling [E. Von] 1861:9 [12], Pl. 4 [Zeitschrift für die Gesammten Naturwissenschaften v. 17 (no. 1)]. Rivers near Esfahan, central Iran. Syntypes: not saved. On p. 12 of separate.
EN: Esfahan Scraper.
Type locality: Rivers near Esfahan, central Iran.
Distribution: Zayandehrud (Esfahan) basin.
Comments: Keyserling (1861) described *Scaphiodon gracilis* from rivers near Isphahan (Esfahan: Probably Zayandehrud). Bianco and Banaresqu (1982) restrict the distribution of this species to the southern slope of Caspian Sea, between Sefid and Atrak rivers, and not in the Kura-Aras drainage. Berg (1949) regarded, based on the number of scales in the lateral line, specimens from Tehran as *V. aculeatus* while he referred specimens from near Esfahan to *V. macrolepis*. Coad and Krupp (1994) listed the specimens from Esfahan as C. aculeata.

Nevertheless, Saadati (1977) considered all specimens from Lut, Yazd, Namak and Tigris as *V. macroleois* and *aculeata* as a subspecies. Based on our morphological and molecular results provided by Zareian et al. (2018), the large-scaled specimens from the Zayandehrud basin are a distinct species and are diagnosable from all other species of *Capoeta*. The name *Capoeta gracilis* (Keyserling 1861) was already used by Temminck and Schlegel (1846) for a species described from Japan (now known as *Squalidus gracilis* (Temminck and Schlegel 1846)). The two names are secondary homonyms. The junior homonym (*gracilis* Keyerling) has never been replaced and the two taxa are no longer considered congeneric. In this case, the junior homonym (*gracilis* Keyerling) is valid and no replacement name is needed based on the Art. 59.2. (International Code of Zoological Nomenclature 1999), and hence, the valid name of the species from Esfahan (Zayandehrud basin) is *Capoeta gracilis* (see Zareian et al. 2018a).

66. ***Capoeta mandica*** Bianco & Bănărescu, 1982*

Capoeta barroisi mandica Bianco [P. G.] & Bănărescu [P. M.] 1982:90, figs. 1C, 2C [Cybium 3e série. Bulletin de la Société Française d'Ichtyologie v. 6 (no. 2).

EN: Mond scraper.

Type locality: Mond River (called Mand by Bianco and Bănărescu, 1982), near Dasht-e Arzhan (correct name is Dasht-e Arjan), Persis basin, Iran.

Distribution: Persis (Zareian et al. 2016a, b).

Comment: Ozuluğ and Freyhof (2008) consider *Capoeta barroisi mandica* Bianco and Bănărescu, 1982 to be a valid species without providing morphological and molecular characteristics. Recently, Zareian et al. (2018b), re-described it and provided the data on the molecular systematics and distribution modelling of this endemic species restricted the Persis basin.

67. ***Capoeta macrolepis*** (Heckel, 1847)*

Scaphiodon macrolepis Heckel [J. J.] 1847:259 [Reisen in Europa, Asien und Africa v. 2 (pt 3)]. Confluents of Araxes River at Persepolis, Iran [Sivand River, Fars near Persepolis]. Syntypes: NMW 51653 (2), 55896 (2).

EN: Kor scraper.

Type locality: Mond River (called Mand by Bianco and Bănărescu, 1982), near Dasht-e Arzhan (correct name is Dasht-e Arjan), Persis basin, Iran.

Distribution: Kor and Tigris.

Comment: *Scaphiodon macrolepis* was probably described from the Pulvar (=Sivand) River, Fars near Persepolis by Heckel (1847). Subsequent authors considered different taxonomic status for this species (Gunther 1868; Berg 1949; Karaman 1969). Karaman (1969) studied a single specimen from the Tigris drainage (‘‘Karasu-Gamasia-Siemareh’’) that he referred to as *C. c. macrolepis*. He did not, however, see any material of what he regarded as *C. c. aculeatum*; he thus referred to Berg (1949) for his description and data on distribution. Bianco and Bănărescu (1982) followed Karaman (l.c.). They stated that *C. c. macrolepis* has a modally higher number of scales in the lateral line series (41–47 vs. 37–45 in C. c. aculeata). However, Coad and Krupp (1994) synonymized this species with *C. aculeata*. Zareian et al. (2018a) provided molecular and morphological data that confirmed validity for the independent lineage of this species and recognition of *C. macrolepis*.

68. ***Capoeta pyragyi*** Jouladeh-Roudbar, Eagderi, Murillo-Ramos, Ghanavi & Doadrio 2017*

Capoeta pyragyi Jouladeh-Roudbar [A.], Eagderi [S.], Murillo-Ramos [L.], Ghanavi [H. R.] & Doadrio [I.] 2017:144, figs. 8-12 [FishTaxa v. 2 (no. 3)]. Tire River at Kaghe Village, Sezar River drainage, Tigris River (Persian Gulf basin), Lorestan Province, Iran, 33°37'06"N, 48°58'13"E. Holotype: IMNRF-UT 1109-141.

Paratypes: IMNRF-UT.
EN: Sezar scraper.
Type locality: Tire River at Kaghe Village, Sezar River drainage, Tigris River (Persian Gulf basin), Lorestan Province, Iran.
Distribution: Tireh and Sezar rivers, Tigris (Persian Gulf basin).

69. ***Capoeta razii*** Jouladeh-Roudbar, Eagderi, Ghanavi & Doadrio 2017*
Capoeta razii Jouladeh-Roudbar [A.], Eagderi [S.], Ghanavi [H. R.] & Doadrio [I.] 2017:144, figs. 4-7 [ZooKeys No. 682]. Kheyroud River, Caspian Sea basin, Chalus city, Mazandaran Province, Iran, 36°36'35"N, 51°33'45"E. Holotype: IMNRF-UT 1072-9. Paratypes: IMNRF-UT.
EN: Caspian scraper.
Type locality: Kheyroud River, Caspian Sea basin, Chalus city, Mazandaran Province, Iran, 36°36'35"N, 51°33'45"E.
Distribution: Rivers and streams of the central and southern Caspian Sea basin and in the north of the Kavir basin, Iran.

70. ***Capoeta saadii*** (Heckel, 1849)*
Scaphiodon saadii Heckel [J. J.] 1847:260 [Reisen in Europa, Asien und Africa v. 2 (pt 3)].
EN: Saadi scraper.
Type locality: Pulwar River (Sivand), Kor River basin, near Persepolis, ruins northeast of Shiraz, Iran.
Distribution: Kor, Esfahan, Persis, Tigris, Maharlu, Sirjan, Kerman-Na'in and Hormuz.
Comment: *Scaphiodon saadii* Heckel, 1847 was described from Persepolis, Pulwar River (Sivand), Kor River basin, ruins northeast of Shiraz, Iran. 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 and Bănărescu, 1982 (non *Capoeta* intermedia Temminck and Schlegel, 1846= *Acheilognathus lanceolata* (Temm-inck and Schlegel, 1846). *Capoeta damascina* was earlier considered by many authors as one of the most common freshwater fish species found throughout the Levant, Mesopotamia, Turkey and Iran. However, it seems that *C. damascina* is restricted to the Damascus basin, Syria (Alwan et al. 2016a, b).

71. ***Capoeta sevangi*** De Filippi, 1865
Capoeta sevangi De Filippi [F.] 1865:312 [Note di un viaggio in Persia nel 1862]. Lake Sevan (= Goktscha), Armenia. Holotype (unique): MZUT 695. Type catalog: Tortonese 1940:140.
EN: Sevan Lake scraper.
Type locality: Lake Sevan (= Goktscha), Armenia.
Distibution: Lake Urmia basin, Aras River drainage in northwestern Iran (Zareian et al. 2018a).

72. ***Capoeta shajariani*** Jouladeh-Roudbar, Eagderi, Murillo-Ramos, Ghanavi & Doadrio 2017*
Capoeta shajariani Jouladeh-Roudbar [A.], Eagderi [S.], Murillo-Ramos [L.], Ghanavi [H. R.] & Doadrio [I.] 2017:148, figs. 8, 14-18 [FishTaxa v. 2 (no. 3). Gamasiab River near Doab Village, Tigris River (Persian Gulf basin), Hamedan Province, Iran, 34°22'13"N, 47°54'26"E. Holotype: IMNRF-UT 1107-21. Paratypes: IMNRF-UT.
EN: Gamasiab scraper.
Type locality: Gamasiab River near Doab Village, Tigris River (Persian Gulf basin), Hamedan Province, Iran.

Distribution: Tigris River (Persian Gulf basin).

73. ***Capoeta trutta*** (Heckel, 1843)
Scaphiodon trutta, Heckel [J. J.] 1843:1056 [66] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Longspine scraper.
Type locality: The type localities of *Capoeta trutta* as given by Heckel (1843b) are "Gewässern bei Aleppo, Syria" and the "Tigris bei Mossul, Iraq" both in Tigris River basin.
Distribution: Tigris and Zohreh (Zareian et al. 2016a, b).

74. ***Capoeta umbla*** (Heckel, 1843):
Scaphiodon umbla Heckel [J. J.] 1843:1060 [70] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Tigris scraper.
Type locality: Tigris River, Mosul, Iraq.
Distribution: Tigris (Persian Gulf basin).
Comment: *Capoeta umbla* has been questionably considered as a synonym of *Capoeta damascina* (Valenciennes, 1842) (see Coad 1991, 1995) or a distinct valid species (Banarescu 1999; Turan et al. 2006; Özuluğ and Freyhof 2008). Based on genetic data using the 16S rDNA marker, Turan (2008) suggested the conspecificity of *C. c. umbla* and *C. c. kosswigi* with *C. trutta* despite the morphological differences among them which, according to him, could be environmentally induced. Recently Levin et al. (2012) reconstructed the matrilineal phylogeny of several Asian algae-eating fishes of the genus *Capoeta* (except *C. umbla*) based on complete mitochondrial gene for cytb sequences from the majority of their distribution ranges. According to them, *Capoeta* forms a strongly supported monophyletic subclade nested within the genus *Luciobarbus* clade, suggesting that specialized scraping morphology appeared once in the evolutionary history of the genus. They detected three main groups of *Capoeta*: the Mesopotamian group, which includes three species from the Tigris-Euphrates system and adjacent waterbodies, the Anatolian–Iranian group, which has the most diversified structure and encompasses many species distributed throughout Anatolian and Iranian inland waters, and the Aralo-Caspian group, which consists of species distributed in basins of the Caspian and Aral Seas, including many dead-end rivers in Central Asia and Northern Iran. Based on the potential distribution range of *C. umbla*, Freyhof (2014) expected its presence in Iran, Iraq, Syria, and Turkey (Turkey-in-Asia). Esmaeili et al. (2016e) reviewed the taxonomy of this taxon and confirmed its presence from the Iranian part of Tigris River.

Genus ***Carasobarbus*** Karaman, 1971 (3 species)
Carasobarbus Karaman [M. S.] 1971:230. Masc. *Systomus luteus* Heckel, 1843. Type by original designation (also monotypic).
Etymology: *Carasobarbus*: Latinization of, karass, karausche, European crucian carp + Latin, barbus = barbel.
Comment: Taxonomic revision of the genus *Carasobarbus* Karaman, 1971 is given by Borkenhagen and Krupp (2013) and the molecular phylogeny of the tribe Torini Karaman, 1971 including *Carasobarbus* is provided by Borkenhagen (2017). *Kosswigobarbus* Karaman [M.S.] 1971:239 is a synonym.
75. ***Carasobarbus kosswigi*** (Ladiges, 1960):
Cyclocheilichthys kosswigi Ladiges [W.] 1960:135, fig. 7 [Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut v. 58].
EN: Kiss-lip himri.
Type locality: Batman Çayı (N37°47'16", E41°0'51"), Turkey.
Distribution: Tigris (Persian Gulf basin).

Comment: *Kosswigobarbus kosswigi* (Ladiges, 1960) is a synonym.

76. ***Carasobarbus luteus*** (Heckel, 1843)
Systomus luteus Heckel [J. J.] 1843:1061 [71] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2)].
EN: Mesopotamian himri.
Type locality: Heckel (1843b) gives localities for the types of Systomus luteus as "Orontes", and "Tigris", and in the next sentence at "Aleppo, Syria" and "Mossul, Iraq". Borkenhagen and Krupp (2013) consider paralectotypes of *Systomus luteus* from Nahr Quwayq, near Aleppo [N36°12'10", E37°9'31"], Syria.
Distribution: Tigris, Persis and Hormuz, Kor, Maharlu.
Comment: *Systomus albus* var. *alpina* Heckel, 1849 (from Rūdkhāneh-ye Qarah Āghāj near Shīrāz = Qarah Āghāj River, Mond, Persis basin, [N29°31'3", E52°15'0"] and also from Daryācheh-ye Parīshān = Parishan wetland [N29°31'7", E51°47'47"]) and *Barbus parieschanica* Wossughi, Khoshzahmat & Etemadfar, 1982 from Parishan wetland, Helleh river basin, Iran are synonyms (see Borkenhagen and Krupp 2013).

77. ***Carasobarbus sublimus*** (Coad & Najafpour, 1997)*
Barbus sublimus Coad [B. W.] & Najafpour [N.] 1997:274, fig. 1 [Ichthyological Exploration of Freshwaters v. 7 (no. 3).
EN: Persian himri.
Type locality: Rūdkhāneh-ye A'lā (Ala River, Jarahi drainage) at Pol-e Tīghen (N31°23'30", E49°53'0"), Khuzestan, Iran.
Distribution: Tigris and Zohreh (Persian Gulf basin).

Genus ***Carassius*** Jarocki, 1822 (2 species)
Carassius (subgenus of *Cyprinus*) Jarocki [F. P.] 1822:54, 74. Masc. *Cyprinus carassius* Linnaeus, 1758. Type by absolute tautonymy. Apparently first appeared in Jarocki 1822:54, 71; Kottelat (2013) says 1822:54 and 74 in Jarocki 1822. This was credited to Jarocki on Feb. 5, 2013.
Etymology: *Carassius*: Latinization of, karass, karausche, European crucian carp; auratus: From the words carassius-Latin of karass (common name for these fishes in Eurasia) and auratus, meaning gilded.
78. ***Carassius auratus*** (Linnaeus, 1758)**
Cyprinus auratus Linnaeus [C.] 1758:322 [Systema Naturae, Ed. X v. 1] China; Japanese rivers. No types known. Neotype designation by Fricke 1999:83 is invalid; see Fricke 2000:639. Paepke 1999:70 treats types for *Cyprinus auratus* var. *a* and var. *c* of Bloch, 1784. Also appeared in Linnaeus 1759:252.
EN: Goldfish.
Type locality: *Cyprinus auratus* was originally described from China and Japanese rivers (see also Kottelat 2013; Zhang et al. 2016).
Distribution: Introduced to several Iranian basins.

79. ***Carassius gibelio*** (Bloch, 1782)**
Cyprinus gibelio Bloch [M. E.] 1782:71, Pl. 12 [M. Marcus Elieser Bloch's, ausübenden Arztes zu Berlin, Oeconomische Natur-geschichte der Fische Deutschlands v. 1.
EN: Prussian carp.
Type locality: Odra River system, Silesia, Czech Republic.
Distribution: Probably mirrors distribution of *C. auratus*.
Comment: Kottelat and Freyhof (2007); Bogutskaya et al. (2008, with question), Esmaeili et al. (2010a), Kalous

et al. (2012), Dyldin and Orlov (2016), Semenchenko et al. (2016) and Romanov et al. (2018) considered it as distinct species.

Genus *Chondrostoma* Agassiz, 1832 (4 species)
Chondrostoma Agassiz [L.] 1832:132. Neut. *Cyprinus nasus* Linnaeus, 1758. Type by monotypy. Probably can date to Agassiz 1832 as above, with type by monotypy. Spelled *Chondrostomus* by Heckel 1843:1030. Also in Agassiz 1835:38 with type designated by Bleeker 1863:197 or 1863:26.
Etymology: *Chondrostoma*: Greek, chondros = cartilage + Greek, stoma = mouth. Name refer-ring to the characteristic horny layer on the lower lip.
80. *Chondrostoma cyri* Kessler, 1877
Chondrostoma cyri Kessler [K. F.] 1877:137, Pl. 5 (fig. 21) [The Aralo-Caspian Expedition.
EN: Southern Caspian nase.
Type locality: Kura River, Tbilisi, Georgia.
Distribution: Caspian Sea basin.

81. *Chondrostoma esmaeilii* Eagderi, Jouladeh-Roudbar, Birecikligil, Çiçek & Coad 2017*
Chondrostoma esmaeilii Eagderi [S.], Jouladeh-Roudbar [A.], Birecikligil [S. S.], Çiçek [E.] & Coad [B. W.] 2017:126, Figs. 1, 2, 3B, 4 [Vertebrate Zoology v. 67 (no. 2)]. Sarab-e Ravansar stream, Ravansar, Kermanshah Province, Iran, 34°42'38"N, 46°39'14"E. Holotype: IMNRF-UT 1045-1. Paratypes: IMNRF-UT.
EN: Tigris nase.
Type locality: Sarab-e Ravansar stream, Ravansar, Kermanshah Province, Iran.
Distribution: Sarab-e Ravansar stream, Tigris (Persian Gulf basin).

82. *Chondrostoma orientale* Bianco & Bănărescu, 1982*
Chondrostoma cyri orientalis Bianco [P. G.] & Bănărescu [P. M.] 1982:80, figs. 1A, 2A [Cybium 3e série. Bulletin de la Société Française d'Ichtyologie v. 6 (no. 2).
EN: Kor nase.
Type locality: Pulwar River (=Sivand), Kor River basin, near Persepolis, Fars, Iran.
Distribution: Kor River basin.
Comment: Sometimes regarded as a synonym of *C. regium*.

83. *Chondrostoma regium* (Heckel, 1843)
Chondochilus regius, Heckel [J.J.] 1843: 1077 [87] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Mesopotamian nase.
Type locality: *Chondrochilus regius* Heckel, 1843 was described from the "Orontes" (= Asi) (but see below) and "Tigris". The type locality "Orontes" (= Asi) in Heckel (1843b) seems to be an error.
Distribution: Tigris, Zohreh (Persian Gulf basin), and Esfahan.

Genus *Ctenopharyngodon* Steindachner, 1866 (1 species)
Ctenopharyngodon Steindachner [F.] 1866:782. Masc. *Ctenopharyngodon laticeps* Steindachner, 1866. Type by monotypy.
Etymology: *Ctenopharyngodon*: Greek, kteis, ktenos = comb + Greek, pharyngx = pharynx + Greek, odous = teeth; *idella*: Cteno=comb; pharynx=throat; odon=tooth (in reference to its comblike pharyngeal teeth); and *idella*: presumably derived from the Greek idios, distinctive or peculiar.

84. ***Ctenopharyngodon idella*** (Valenciennes, 1844)**
Leuciscus idella Valenciennes [A.] in Cuvier and Valenciennes 1844:362 [Histoire naturelle des poissons v. 17] China. No types known
EN: Grass carp.
Type locality: China. No types known.
Distribution: Introduced to the Caspian Sea, Tigris River, Kor River, Maharlu and Sistan basins; elsewhere in reservoirs throughout Iran.

Genus *Cyprinion* Heckel, 1843 (5 species)
Cyprinion Heckel [J. J.] 1843:1015. Neut. *Cyprinion macrostomus* Heckel, 1843. Type by subsequent designation. Type designated by Jordan 1919:211. *Cyprinium* Agassiz, 1846:114 is an unjustified emendation.
Etymology: *Cyprinion*: Diminutive of Latin, cyprinus = carp.
Comment: *Scaphiodon* Heckel, 1843 has been used for *Cyprinion* and *Capoeta* species in Southwest Asia.
85. ***Cyprinion kais*** Heckel, 1843
Cyprinion kais Heckel [J. J.] 1843:1066 [76] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Smallmouth lotak.
Type locality: The type localities for *Cyprinion kais* are "Aleppo, Syria" and "Mossul, Iraq" and for *Cyprinion cypris* the "Tigris bei Mossul" (Heckel, 1843b) or Tigris River basin.
Distribution: Tigris.

86. ***Cyprinion macrostomum*** Heckel, 1843
Cyprinion macrostomum Heckel [J.J.] 1843:1065 [75] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Largemouth lotak.
Type locality: Tigris River basin (Aleppo, Syria and Mosul, Iraq).
Distribution: Tigris and probably Persis.
Comment: Originally spelt *macrostomus* but correctly *macrostomum* (Berg, 1949).

87. ***Cyprinion milesi*** (Day, 1880)
Barbus milesi Day [F.] 1880:228 [6] [Proceedings of the Zoological Society of London 1880 (pt 2) (art. 1).
EN: Eastern lotak.
Type locality: *Barbus milesi* was described from "a spring at Tràl", Pakistan.
Distribution: Hormuz, Hamun-e Jaz Murian and Makran.
Comments: Iranian synonyms are *Barbus bampurensis* Nikol'skii, 1899 and *Barbus baschakirdi* Holly, 1929.

88. ***Cyprinion tenuiradius*** Heckel, 1849*
Cyprinion tenuiradius Heckel [J. J.] 1847:261 [Reisen in Europa, Asien und Africa v. 2 (pt 3).
EN: Qarah Aqaj lotak (Figs. 27, 28).
Type locality: The "Kara-Agatsch als aus dem Araxes" (= Qarah Aqaj River, and the Kor River, Fars).
Distribution: Persis (Persian Gulf basin).
Comment: Karaman (1971) assigns this taxon as a subspecies of *Cyprinion macrostomum* and Bianco and Banarescu (1982) suggest it may be a subspecies in a polytypic species. Berg (1949) records it from the Tigris River where it may be sympatric with *C. macrostomum*. He considers it to be close to that species, perhaps its southeastern subspecies. Howes (1982) considers *tenuiradius* to be a variant of *C. macrostomum*.

89. ***Cyprinion watsoni*** (Day, 1872)
Scaphiodon watsoni Day [F.] 1872:324 [Journal of the Asiatic Society of Bengal v. 41 (pt 2, nos 1-4
EN: Indus lotak.
Type locality: Rivers on Sind Hills, Pakistan and the Salt Range of the Punjab.
Distribution: Hormuz, Hamun-e Jaz Murian, Mashkid, 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. Some authors consider Iranian populations to *Cyprinion microphthalmum* (Day 1880). *Scaphiodon microphthalmus* Day, 1880 was originally described from Quetta, Pakistan.

Genus ***Cyprinus*** Linnaeus, 1758 (1 species)
Cyprinus Linnaeus [C.] 1758:320. Masc. *Cyprinus carpio* Linnaeus, 1758. Type by subsequent designation. Type designated by Desmarest 1856:283- see Whitley 1939:225 but Whitley has incorrect date for Desmarest; also by Jordan and Gilbert 1883:254. On Official List (Opinion 77). Misspelled *Ciprinus* by Anonymous (Cabrera, Pérez and Haenseler) 1817.
Etymology: *Cyprinus*: Latin, cyprinus = carp; *carpio*: carpio is the latinized form of carp. *Cyprinus* is the old world name for the carp.
90. ***Cyprinus carpio*** Linnaeus, 1758**
Cyprinus carpio Linnaeus [C.] 1758:320 [Systema Naturae, Ed. X v. 1.
EN: Wild common carp.
Type locality: Europe.
Distribution: Native populations in the Caspian Sea basin; also introduced there and elsewhere in Iran.

Genus ***Garra*** Hamilton, 1822 (13 species, 1 unconfirmed)
Garra (subgenus of *Cyprinus*) Hamilton [F.] 1822:343, 393. Fem. *Cyprinus* (*Garra*) *lamta* Hamilton, 1822. Type by subsequent designation. Type designated by Bleeker 1863:192, 1863:262 or 1863:24.
Etymology: *Garra*: Name based on a vernacular Indian name (Hamilton, 1822:343).
Comment: It was recently reviewed by Esmaeili et al. (2016c).
91. ***Garra amirhosseini*** Esmaeili, Sayyadzadeh, Coad & Eagderi, 2016*
Garra amirhosseini Esmaeili [H. R.], Sayyadzadeh [G.], Coad [B. W.] & Eagderi [S.] 2016:87, figs. 2-10 [Iranian Journal of Ichthyology v. 3 (no. 2).
EN: Hot spring garra, Amirhossein's garra.
Type locality: Sartang-e-Bijar hot spring at Mehran, Tigris River drainage, 33°46'16.3"N 45°56'17.2"E; G. Sayyadzadeh and A. Mansouri, 26 Oct 2015.
Distribution: Tigris (Persian Gulf basin).

92. ***Garra gymnothorax*** (Berg, 1949)*
Garra rufa gymnothorax, Berg [L.S.] 1949:792, figs. 4-5 [Trudy Instituta Zoologii/ Akademiia Nauk SSSR v. 8 (no. 4).
EN: Chest scaleless garra.
Type locality: Tigris River
Distribution: Karun River system in the Helayjan River at Izeh, Balarud River at Andimeshk and Bashar River at Yasouj.

93. *Garra elegans* (Günther, 1868)
Tylognathus elegans Günther [A.] 1868:64 [Catalogue of the fishes in the British Museum v. 7.
EN: Elegant garra.
Type locality: Mesopotamia?
Distribution: *Garra elegans* is found in the Tigris River drainage in Iraq (Freyhof 2016a) and probably Iran. It is known from the lower Little Zab River, the Sirvan River, and the lower Tigris (Coad 2010; Freyhof 2016a).
Comment: *Hemigrammocapoeta elegans* (Günther, 1868) is a synonym. It was formerly placed in the genera *Tylognathus* Heckel, 1843 and *Hemigarra* Karaman, 1971. Molecular studies by Esmaeili et al. (2016c) place *G. elegans* close to *G. amirhosseini*, *G. mondica*, *G. persica* and *G. rufa*, all of which have a well-developed mental disc.

94. *Garra lorestanensis* Mousavi-Sabet & Eagderi, 2016*
Garra lorestanensis Mousavi-Sabet [H.] and Eagderi [S.] 2016:46, figs. 1-4, 8a, 9a, 9b [FishTaxa v. 1].
EN: Blind cave garra
Type locality: Iran, Lorestan province. Loven Cave, the Tigris River drainage, the Persian Gulf basin.
Distribution: The Loven Cave, the natural outlet of a subterranean limestone system of the Zagros Mountains in the Ab-e Sirum or Ab-e Serum Valley near Tang-e Haft railway station, the Tigris River drainage, the Persian Gulf basin, Lorestan Province, southwestern Iran.

95. *Garra mondica* Sayyadzadeh, Esmaeili & Freyhof, 2015*
Garra mandica Sayyadzadeh [G.], Esmaeili [H.R.] & Freyhof [J.] 2015:78, figs. 2-6 [Zootaxa 4048 (no. 1].
EN: Mond garra.
Type locality: Iran: Fars prov. Konar Siyah spring at Firuzabd, 28°43'40"N 52°25'20"E;
Holotype: ZM-CBSU H1032, 66 mm SL.
Distribution: Mond River drainage, Persis (Persian Gulf basin).

96. *Garra nudiventris* (Berg, 1905)*
Discognathus rossicus var. *nudiventris* Berg [L. S.] 1905:52 [Izviestii Turkestanskago otdiela Russkago geograficheskago obschchestva v. 4.
EN: Lut garra.
Type locality: Shivar [Seistan / Southern Baluchistan], north-east Kerman, Persia.
Distribution: Lut drainage basin at Kalat-e-Baba Qanat.

97. *Garra persica* Berg, 1913*
Garra persica Berg [L.S.] 1914:61 [Ezhegodnik. Zoologicheskogo Muzeya Akademii Nauk SSSR. v. 18.
EN: Persian garra.
Type locality: Bampur River, southern Iran; Kiabad in Zirkuh, eastern Khorassan according to Berg (1913).
Distribution: Hormuz, Makran and Hamun-e Jaz Murian.

98. *Garra rossica* (Nikol'skii, 1900)
Discognathus rossicus Nikolskii [A.M.] 1900:239 [Ezhegodnik. Zoologicheskogo Muzeya Akademii Nauk SSSR. v. 5.
EN: Hari garra.
Type locality: Hari River, Turkmenistan; rivers in eastern Iran.

Distribution: Hari, Bedjestan, Sistan, Lut, Hamun-e Jaz Murian, Mashkid and Makran.

99. *Garra rufa* (Heckel, 1843)
Discognathus rufus Heckel [J.J.] 1843:1071 [81] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: The common garra, Red garra.
Type locality: The types of *Discognathus rufus* are from "Aleppo, Syria" according to Heckel (1843b).
Distribution: Tigris and Persis (Persian Gulf basin) and Maharlu.
Comment: *Discognathus crenulatus* was described by Heckel (1849) from the area of Shiraz, "Confluenten des Araxes, als aus den Quellen des Saadi und dem Kara-Agatsch [Confluence of Araxes River as well as from the springs of Saadi and from Kara-Agatsch]". The “Confluence of Araxes River belongs to the Kor drainage, the “springs of Saadi belong to the Lake Mahalo basin and the “Kara-Agatsch belongs to the Mond River drainage. Coad (1991) treated *D. crenulatus* as a synonym of *G. rufa* while Bianco and Banarescu (1982) considered it as a subspecies of *G. rufa*. JF examined syntypes of *D. crenulatus* at NRM (NMW 53236–37). All fishes have the breast and belly as well as the pre-dorsal midline fully covered by scales. No difference of the syntypes of *D. crenulatus* and *G. rufa* could be found. Moreover, based on Sayyadzadeh et al. (2015a) *Garra* specimens from the Iranian Lake Maharlu basin and the Mond River drainage, two of the syntype localities of *Discognathus crenulatus*, are nested within *G. rufa*. Therefore, we follow Coad (1991) and Sayyadzadeh et al. (2015a) and treat *D. crenulatus* as a synonym of *G. rufa*.

100. *Garra tashanensis* Mousavi-Sabet, Vatandoust, Fatemi & Eagderi, 2016*
Garra tashanensis Mousavi-Sabet [H.], Vatandoust [S.], Fatemi [Y.] & Eagderi [S.] 2016:135, figs. 2-6, 10, 14B [FishTaxa v. 1 (no. 3).
EN: Tashan blind cave garra.
Type locality: Tashan Cave, Tigris River drainage, Persian Gulf basin, Khuzestan Province, Iran, 30°51'91"N, 50°10'49"E, elevation 490 meters.
Distribution: Subterranean waters in the Tigris drainage (Persian Gulf basin).

101. *Garra typhlops* (Bruun & Kaiser, 1944)*
Iranocypris typhlops Bruun [A.F.] and Kaiser [E.W.] 1944:5, Pl. 1 (figs. 1-4) [Danish Scientific Investigations in Iran (Copen-hagen) Part 4.
EN: Discless blind cave garra.
Type locality: A flood resurgence at Kaaje-Ru, valley of Ab-i-Serum, Lorestan Province, Zagros Mountains, Iran, 33°05'N, 48°36'E.
Distribution: Subterranean waters in the Tigris drainage.
Comment: Hashemzadeh Segherloo et al. (2012) found these two forms had a mean genetic distance, based on DNA evidence, higher than intraspecific divergence. They thought the two forms could represent separate species, with an affinity to the genus *Garra*. Phylogenetic relationships of this taxon was provided by Hashemzadeh Segherloo et al. (2016). They treat the genera *Hemigrammocapoeta*, *Typhlogarra* and *Iranocypris* as synonyms to *Garra*.

102. *Garra variabilis* (Heckel, 1843)
Discognathus variabilis Heckel [J. J.] 1843:1069 [79] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Small-mouth garra.
Type locality: Heckel (1843b) gives the type localities as "Mossul" and "Aleppo" (Tigris River basin).

Distribution: Tigris (Persian Gulf basin).
Comment: Needs confirmation by specimens for Iran.

103. *Garra* sp.*
Comment: Based on the molecular data provided by Sayyadzadeh et al. (2015a) and Esmaeili et al. (2016c, 2017a), Kol River population might be a distinct species.

Genus *Gobio* Cuvier, 1816 (1 species)
Gobio Cuvier [G.] 1816:193. Masc. *Cyprinus gobio* Linnaeus, 1758. Type by monotypy (also by absolute tautonymy). *Gobio* Walbaum (ex Klein) 1792 would preoccupy but is not admissible.
Etymology: *Gobio*: Latin, gobius = gudgeon.
104. *Gobio nigrescens* (Keyserling, 1861)
Bungia nigrescens Keyserling [E. Von] 1861:19 [22], Pl. 8 [Zeitschrift für die Gesammten Naturwissenschaften v. 17 (no. 1).
EN: Hari gudgeon.
Type locality: Harirud River at Herat, Afghanistan. No types saved.
Distribution: Hari River in Afghanistan, Iran and Turkmenistan.
Comment: Formerly the Harirud River population was considered as *Gobio lepidolaemus* Kessler, 1872.

Genus *Hemiculter* Bleeker, 1859 (1 species)
Hemiculter Bleeker [P.] 1860:432. Masc. *Culter leucisculus* Basilewsky, 1855. Type by subsequent monotypy. Apparently appeared first in key, without included species. One species included by Bleeker 1860:282, 401.
Etymology: *Hemiculter*: Greek, hemis = the half + Latin, culter = knife.
105. *Hemiculter leucisculus* (Basilewsky, 1855)**
Culter leucisculus Basilewsky [S.] 1855:238 [Nouveaux mémoires de la Société impériale des naturalistes de Moscou v. 10.
EN: Sharpbelly.
Type locality: *Culter leucisculus* was originally described from rivers flowing into Bay of Tschili [Chihli], Beijing [Peking], China.
Distribution: Introduced to the Caspian Sea basin; probably elsewhere in Iran including Urmia Lake and Tigris River basins (Esmaeili et al. 2014a, b; Zareian et al. 2015).
Comment: *Hemiculter eigenmanni* (Jordan and Metz, 1913) is a synonym.

Genus *Hypophthalmichthys* Bleeker, 1859 (2 species)
Hypophthalmichthys Bleeker [P.] 1860:433. Masc. *Leuciscus molitrix* Valenciennes 1844. Type by subsequent designation. Apparently appeared first in key, without included species.
Etymology: *Hypophthalmichthys*: Greek, hypo = under + Greek, ophthalmos = eye + Greek, ichthys = fish; *molitrix*: molitrix, approximately grinder (referring to the pharyngeal grinding apparatus).
106. *Hypophthalmichthys molitrix* (Valenciennes, 1844)**
Leuciscus molitrix Valenciennes [A.] in Cuvier and Valenciennes 1844:360 [Histoire naturelle des poissons v. 17]. No types known.
EN: Silver carp.
Type locality: China.
Distribution: Introduced to Caspian reservoirs and throughout Iran.

107. ***Hypophthalmichthys nobilis*** (Richardson, 1844)**
Leuciscus nobilis Richardson [J.] (ex Gray) 1845:140, Pl. 63 (fig. 3) [Ichthyology.-Part 3. The zoology of the voyage of H. M. S. Sulphur.
EN: Bighead carp.
Type locality: Canton, China.
Distribution: Introduced to Caspian reservoirs and throughout Iran.

Genus *Leucaspius* Heckel & Kner, 1858 (1 species)
Leucaspius Heckel [J.J.] and Kner [R.] 1857:145. Masc. *Leucaspius abruptus* Heckel and Kner, 1857. Type by monotypy. Misspelled *Leucaspis* by Jordan 1923:141.
108. ***Leucaspius delineatus*** (Heckel, 1843)
Squalius delineatus Heckel [J. J.] 1843:1041 [51] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Moderlieschen.
Type locality: *Squalius delineatus* was described from Marchfelds near Vienna and Mähren, Austria.
Distribution: Caspian Sea basin.
Comment: *Squalius delineatus* was originally described from Wien and Mähren, Austria. The Caspian Sea basin taxon is given by Berg (1948-1949) *as Leucaspius delineatus delineatus* natio *caucasicus* Berg, 1949, described from Transcaucasia, which is distinguished by a lower average dorsal fin branched ray count (7-8 rather than 8 or rarely 9 for the typical form of Europe). This natio has no taxonomic standing but has been applied as a subspecies by some authors (Arnold and Längert 1995).

Genus *Leuciscus* Cuvier, 1816 (3 species)
Leuciscus Cuvier [G.] (ex Klein) 1816:194. Masc. *Cyprinus leuciscus* Linnaeus, 1758. Type by absolute tautonymy. Appeared first in Klein 1775, unavailable.
Etymology: Leuciscus: Greek, leykiskos = white mullet.
Comment: Both *Aspius* species are placed in *Leuciscus* by Perea et al. (2010) on molecular evidence which contradicts morphology. Further study is needed.
109. ***Leuciscus aspius*** (Linnaeus, 1758)
Cyprinus aspius Linnaeus [C.] 1758:325 [Systema Naturae, Ed. X v. 1.
EN: Asp, European asp.
Type locality: *Cyprinus aspius* L., 1758 was originally was described from Swedish lakes. No types known. Neotype is designated by Fricke (1999).
Distribution: Caspian Sea basin.
Comment: *Leuciscus aspius taeniatus* (Eichwald, 1831) from the Southern Caspian Sea has been considered as a subspecies by some authors (see Coad 2017).

110. ***Leuciscus latus*** (Keyserling, 1861)
Squalius latus Keyserling [E. Von] 1861:21 [24], Pl. 9 [Zeitschrift für die Gesammten Naturwissenschaften v. 17 (no. 1).
EN: Hari asp, Esatern asp.
Type locality: *Squalius latus* was originally described from the Hari-Rud, Herat, Afqanistan.
Distribution: Tedzhen (Hari) River basin.

111. ***Leuciscus vorax*** (Heckel, 1843)
Aspius vorax Heckel [J.J.] 1843:1081 [91] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Mesopotamian asp.
Type locality: *Aspius vorax* Heckel, 1843 was described from Tigris River near Mosul, Iraq.
Distribution: Tigris (Persian Gulf basin).

Genus *Luciobarbus* Heckel, 1843 (9 species)
Luciobarbus Heckel [J.J.] 1843:1019, 1054. Masc. *Luciobarbus esocinus* Heckel, 1843. Type by subsequent designation. Earliest designation located is Jordan 1919:211.
Etymology: *Luciobarbus*: Latin, Lucius = pike, barbus = barbel.
Comment: It seems that *L. pectoralis*, frequently reported species from Iran is now restricted to the Orontes River system in Turkey and Syria, Mediterranean watersheds of Turkey.
112. ***Luciobarbus barbulus*** (Heckel, 1849)
Barbus barbulus Heckel [J.J.] 1847:256 [Reisen in Europa, Asien und Africa v. 2 (pt 3)].
EN: Qarah Aqaj barbel.
Type locality: *Barbus barbulus* was originally described from Kara Agatsch River (a tributary of Mond), possibly near Kereft, 29°01'N, 52°52'E), Iran.
Distribution: Helleh, Mond (Persis) and Tigris (Persian Gulf basin).

113. ***Luciobarbus brachycephalus*** (Kessler, 1872)
Barbus brachycephalus Kessler [K.F.] 1872: 52 [8], Pl. 7 (figs. 9-11) [Izvestiia Imperatorskago Obschchestva Liubitelei Estestvozaniia, Antropologii i Etnografii v. 10 (no. 1).
EN: Aral barbel.
Type locality: *Barbus brachycephalus* Kessler, 1872 was originally described from Syr-Darya River, central Asia.
Distribution: Southern Caspian Sea basin.
Comment: The subspecies *Barbus brachycephalus caspius* Berg, 1914 has been regarded as a synonym but a valid subspecies (Bogutskaya and Naseka 2004) or a distinct species in the Caspian Sea (Fricke et al. (2007). Here, we follow Eschmeyer et al. (2018). Further study is needed.

114. ***Luciobarbus capito*** (Güldenstaedt, 1773)
Cyprinus capito Güldenstädt [J.A. von] 1773:519, 520 [Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae v. 17 (for 1772).
EN: Bulatmai barbel.
Type locality: *Cyprinus capito* Güldenstaedt, 1773 was originally described from Kura River, Transcaucasia. No types known.
Distribution: Western Caspian Sea basin.

115. ***Luciobarbus caspius*** (Berg, 1914)
Barbus brachycephalus caspius Berg [L. S.] 1914:612, fig. 119.
EN: Caspian barbel.
Type locality: *Barbus brachycephalus caspius* was originally described from Caspian Sea basin.
Comment: The subspecies *Barbus brachycephalus caspius* Berg, 1914 has been regarded as a synonym of *Luciobarbus brachycephalus* (Kessler 1872), but a valid subspecies (Bogutskaya and Naseka 2004:49, Esmaeili

et al. 2010a:370) or a distinct species of *Luciobarbus caspius* (Fricke et al. 2007:42, Jouladeh-Roudbar et al. 2015:875). It is considered as *Luciobarbus caspius* in Catalog of Fishes (2017). Here, we follow Eschmeyer et al. (2018). Further study is needed.

116. ***Luciobarbus esocinus*** Heckel, 1843
Luciobarbus esocinus Heckel [J.J.] 1843:1054 [64] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Pike barbel.
Type locality: Tigris River, Mosul, Iraq.
Distribution: Tigris (Persian Gulf basin).

117. ***Luciobarbus kersin*** (Heckel, 1843)
Barbus kersin Heckel [J. J.] 1843:1049 [59] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Berzem, Kersin barbel.
Type locality: Syria.
Distribution: Tigris (Persian Gulf basin).

118. ***Luciobarbus mursa*** (Güldenstaedt, 1773)
Cyprinus mursa Güldenstädt [J.A. von] 1773:513, Pl. 9 [Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae v. 17 (for 1772).
EN: Mursa.
Type locality: *Cyprinus mursa* Güldenstaedt, 1773 was originally described from Kura River at Tiflis [= Tbilisi], Transcaucasia.
Distribution: Caspian Sea and Lake Urmia basins.

119. ***Luciobarbus subquincunciatus*** (Günther, 1868)
Barbus subquincunciatus Günther [A.] 1868:86 [Catalogue of the fishes in the British Museum v. 7.
EN: Leopard barbel.
Type locality: No exact locality is given. *Barbus subquincunciatus* Günther, 1868 was originally described from Mesopotamia. Holotype (unique).
Distribution: Tigris (Persian Gulf basin).

120. ***Luciobarbus xanthopterus*** Heckel, 1843
Luciobarbus xanthopterus Heckel [J. J.] 1843:1053 [63] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Gattan.
Type locality: Tigris River, Mosul, Iraq.
Distribution: Tigris (Persian Gulf basin).

Genus *Mesopotamichthys* Karaman, 1971 (1 species)
Mesopotamichthys Karaman [M. S.] 1971:227. Masc. *Barbus sharpeyi* Günther 1874. Type by original designation (one species, two subspecies).
Etymology: *Mesopotamichthys*: Greek, mesopotamos = between two rivers; the name of the ancient Mesopotamia, between Tigris and Euphrates + Greek, ichtys = fish.
121. ***Mesopotamichthys sharpeyi*** (Günther, 1874)
Barbus sharpeyi Günther [A.] 1874:38 [3], Pl. 9 [Annals and Magazine of Natural History (Series 4) v. 14 (no.

79).
EN: Binni.
Type locality: Tigris River near Baghdad, Iraq.
Distribution: Tigris and Persis (Persian Gulf basin).

Genus *Mylopharyngodon* Peters, 1881 (1 species)
Mylopharyngodon Peters [W. (C.H.)] 1881: 925. Masc. *Leuciscus aethiops* Basilewsky, 1855. Type by monotypy.
Etymology: *Mylopharyngodon*: Greek, mylo = mill + Greek, pharynx = throat + Greek, odous = teeth.
122. *Mylopharyngodon piceus* (Richardson, 1846)**
Leuciscus piceus Richardson [J.] 1846:298 [Report of the British Association for the Advancement of Science 15th meeting [1845].
EN: Black carp.
Type locality: *Leuciscus piceus* Richardson, 1846 was originally described from Canton, China. No types known.
Distribution: Introduced to the Caspian Sea basin.

Genus *Pelecus* Agassiz, 1835 (1 species)
Pelecus Agassiz [L.] 1835:39. Masc. *Cyprinus cultratus* Linnaeus, 1758.
Etymology: *Pelecus*: Greek, pelekys = hatchet.
123. *Pelecus cultratus* (Linnaeus, 1758)
Cyprinus cultratus Linnaeus [C.] 1758:326 [Systema Naturae, Ed. X v. 1.
EN: Ziege.
Type locality: Helgeån River, Sweden. Holotype (unique).
Distribution: Caspian Sea basin.
Comment: The subspecies *Pelecus cultratus kurensis* Smirnov, 1941 was described from Kura River basin.

Genus *Petroleuciscus* Bogutskaya, 2002 (1 species)
Petroleuciscus Bogutskaya [N.G.] 2002:236. Masc. *Squalius borysthenicus* Kessler, 1859. Type by original designation.
Comment: Under revision. It has been considered as valid genus by Bogutskaya and Naseka (2004:86), Kottelat and Freyhof (2007:154, 220), Coad and Bogutskaya (2010: 37), Perea et al. (2010:3, 14). However, Parin et al. (2014:95) consider it as synonym of *Squalius* Bonaparte, 1837.
Etymology: *Petroleuciscus*: Named for Petru Bănărescu, a famous freshwater ichthyologist and Petr Naseka, son of the genus author, and *Leuciscus*, a related genus. Perea et al. (2010) used mitochondrial and nuclear DNA and concluded that *Petroleuciscus* is not monophyletic. According to Teimori et al. (2015b), the European *Petroleuciscus* species are sister group to the genus *Squalius*. *Petroleuciscus* might be not valid generic name for the Iranian species. Further study is needed.
124. *Petroleuciscus ulanus* (Günther, 1899)*
Leuciscus ulanus Günther [A.] 1899:387, Pl. 24 (fig. A) [The Journal of the Linnean Society of London. Zoology v. 27 (no. 177)].
EN: Urmia chub.
Type locality: *Leuciscus ulanus*, was originally described from Ula on the Zola Chai, northwestern Iran.
Distribution: Lake Urmia basin.

Comment: *Leuciscus gaderanus* Günther, 1899 from Iran (Gader Chai, near Ocksa, northwestern Iran; near mouth of Nazlu Chai at Superghan, Iran) is a synonym.

Genus *Pimephales* Rafinesque, 1820 (1 species)
Pimephales Rafinesque [C.S.] 1820:242. Masc. *Pimephales promelas* Rafinesque, 1820. Type by monotypy. Also appeared in Rafinesque 1820:52 (Dec.); Rafinesque states name is from "*Pimelecephales*"; *Pimelocephales* Meek 1904:50 is an unjustified emendation of *Pimephales*.
Etymology: *Pimephales*: Greek, pimeles, -es = fat + Greek, phales = whale; if the root is Greek, phales, -etos = penis.
125. *Pimephales promelas* Rafinesque, 1820**
Pimephales promelas Rafinesque [C.S.] 1820:299 [Western Revue and Miscellaneous Magazine: a monthly publ., devoted to literature and science, Lexington, KY v. 2 (no. 5).
EN: Fathead minnow.
Type locality: Pond, near Lexington, Kentucky, U.S.A. Holotype (unique)
Distribution: Introduced to the Namak Lake basin.
IUCN: Least Concern (native population).
Comment: This species was reported from a reservoir, probably the Yengi Kand where bass (*Micropterus salmoides*) and bluegills (*Lepomis macrochirus*) were introduced, south of Tehran at 75 km from Asia-beg (Andersskog 1970) (presumably Asia Bak at 35°19'N, 50°30'E on the Tehran-Esfahan highway). The MMTT catalogue also has a record for the "Dusadj Reservoir", 90 km west of Saveh, presumably in Markazi Province and the Namak Lake basin too. These reservoirs may be the same locality as "Dusadj" or Duzaj, Yang-e Kand and Yanguikand are all villages in the same general area west of Saveh. The reservoir is deduced from maps to be at about 35°19'N, 49°55'E (Coad 2017). No recent report of this fish is available.

Genus *Pseudorasbora* Bleeker, 1859 (1 species)
Pseudorasbora Bleeker [P.] 1859:261. Fem. *Leuciscus pusillus* Temminck and Schlegel, 1846. Type by subsequent monotypy. Appeared first in key, without species; one species (*pusillus*) included by Bleeker 1860:261 and 1860:2, 97. Type apparently not *Leuscisus parvus* Temminck and Schlegel as designated by Bleeker 1863:212 and 1863:32, although months of publication for pertinent Bleeker papers are not well established.
Etymology: *Pseudorasbora*: Greek, pseudes = false + Rasbora, an Indian word for a fish, also used in Malay Peninsula.
126. *Pseudorasbora parva* (Temminck & Schlegel, 1846)**
Leuciscus parvus Temminck [C.J.] and Schlegel [H.] 1846:215, Pl. 102 (figs. 3, 3a-b) [Fauna Japonica Parts 10-14].
EN: Topmouth gudgeon.
Type locality: *Leuciscus parvus* Temminck and Schlegel, 1846 was originally described from Japan.
Distribution: Introduced to the Caspian Sea, Namak Lake, Hari River, Sistan, Maharlu, Urmia, Persis and Tigris River drainages and probably elsewhere (Esmaeili et al. 2014a).

Genus *Rhodeus* Agassiz, 1832 (1 species)
Rhodeus Agassiz [L.] 1832:134. Masc. *Cyprinus amarus* Bloch, 1782. Type by monotypy. Also in Agassiz 1835:37.
Etymology: *Rhodeus*: Greek, rhodeos, a,-on = rose.

127. ***Rhodeus amarus*** (Bloch, 1782)
Cyprinus amarus Bloch [M.E.] 1782:52, Pl. 8 (fig. 3) [M. Marcus Elieser Bloch's, ausübenden Arztes zu Berlin, Oeconomische Naturgeschichte der Fische Deutschlands v. 1].
EN: European bitterling.
Type locality: Müggelsee (lake) near Köpenick, Berlin, Germany.
Distribution: The Caspian Sea basin, introduced to the Urmia Lake and Tigris basins (Esmaeili et al. 2011b; Eagderi and Nasri 2012).
Comment: Formerly identified as *Rhodeus sericeus* (Pallas, 1776). Naseka and Bogutskaya (2009) refer to the Caspian Sea taxon as *Rhodeus* sp. Further study is needed.

Genus *Romanogobio* Bănărescu, 1961 (2 species)
Romanogobio (subgenus of *Gobio*) Bănărescu [P.M.] 1961: 332. Masc. *Gobio* kesslerii Dybowski, 1862. Type by original designation. Also in Bănărescu 1962.
Etymology: Romano: Roman+gobio: Latin, gobius= gudgeon.
128. ***Romanogobio macropterus*** (Kamensky, 1901)
Gobio macropterus Kamensky [S.N.] 1901: 10 [German p. 146] [Die Cypriniden der Kaukasusländer und ihrer angrenzenden Meere. 2.
EN: South Caucasian gudgeon.
Type locality: Caucasus.
Distribution: Caspian Sea basin.

129. ***Romanogobio persus*** (Günther, 1899)*
Gobio persa Günther [A.] 1899:386, Pl. 23 (fig. B) [The Journal of the Linnean Society of London. Zoology v. 27 (no. 177).
EN: Persian gudgeon.
Type locality: Gader Chai, Urmia basin, northwestern Iran.
Distribution: Lake Urmia basin.
Comment: Formerly in the genus *Gobio*. Considered by some as a subspecies of *R. macropterus*. Naseka and Freyhof (2004) recognise this taxon as a distinct species.

Genus *Rutilus* Rafinesque, 1820 (2 species)
Rutilus Rafinesque [C.S.] 1820:240. Masc. *Cyprinus rutilus* Linnaeus, 1758. Type by original designation (also by absolute tautonymy). Also appeared in Rafinesque 1820:50 (Dec.).
Etymology: *Rutilus*: Latin, rutilus = reddish.
Comment: Caspian Sea populations need further study.
130. ***Rutilus lacustris*** (Pallas, 1814)
Cyprinus lacustris Pallas [P. S.] 1814:314 [Zoographia Rosso-Asiatica v. 3]. Siberia, Russia. Syntypes: whereabouts unknown.
EN: Roach, Vobla.
Distribution: Caspian Sea basin.
Comment: Synonym of *Rutilus rutilus* (Linnaeus, 1758), but a valid subspecies -- (Berg 1949:499, Zhu 1995:29, Chereshnev 1996:601, Bogutskaya 1997:179, Luo in Chen et al. 1998:89, Sideleva 2001:50, Sideleva 2003:8). Synonym of *Rutilus rutilus* (Linnaeus, 1758) -- (Kottelat 1997:80, Bogutskaya 1998:70, Kottelat 2006:49, Parin et al. 2014:92). Valid as *Rutilus rutilus* (Pallas, 1814), subspecies *lacustris* (Pallas, 1814) -- (Zhang et al.

2016:55). Valid as *Rutilus lacustris* (Pallas, 1814) (Levin et al. 2017:44). *Rutilus caspicus* (Yakovlev, 1870) is a synonym according to Levin et al. (2017). *Leuciscus rutilus caspicus* var. *Yakovlev* [V. E.] 1870:103 [3], fig. 2 [On the new and little-known species of fish was originally described from Volga River delta, Russia. It has been considered as a valid species by Kottelat and Freyhof (2007:239), Esmaeili et al. (2010a:371) and Jouladeh-Roudbar et al. (2015b:879). *Rutilus caspicus* is recognised as the Caspian Sea resident species and *R. rutilus* as the freshwater species (Bogutskaya and Naseka 2004, Kottelat and Freyhof 2007).

131. ***Rutilus kutum*** Kamenskii, 1901

Leuciscus frisii kutum var. *Kamensky* [S. N.] 1901:23 [German p. 154], Pl. 12 [Die Cypriniden der Kaukasusländer und ihrer angrenzenden Meere. 2.

EN: Kutum.

Type locality: Southern Caspian Sea and tributaries.

Distribution: Caspian Sea basin.

Comment: *Leuciscus frisii kutum* Kamenskii, 1901 was originally described from Southern Caspian Sea and its tributaries. Bogutskaya and Iliadou (2006:294), Fricke et al. (2007:46), Naseka and Bogutskaya (2009), Esmaeili et al. (2010a:371) and Jouladeh-Roudbar et al. (2015b:879) regard *Rutilus kutum* Kamenskii, 1901 as a distinct species. It has been considered as *Rutilus frisii* (Nordmann, 1840), but a valid subspecies by Coad (1995:20) and Parin et al. (2014:91). According to Levin et al. (2017), a distinct lineage in the eastern part of the genus range is considered as *R. frisii*, which also includes *R. kutum* (Kotlik et al. 2008). Levin et al. (2017) confirmed the phylogenetic position of *R. frisii* (lineage of *R. frisii* + *R. k*utum) as sister to a large group of species from Adriatic and Aegean drainages (*R. aula, R. basak, R. prespensis, R. ohridanus, R. ylikiensis, R. panosi*, and *R. pigus*) which are in concordance with results obtained by Ketmaier et al. (2008).

Genus *Scardinius* Bonaparte, 1837 (1 species)

Scardinius (subgenus of *Leuciscus*) Bonaparte [C.L.] 1837: puntata 96. Masc. *Leuciscus scardafa* Bonaparte, 1837. Type by original designation. Apparently appeared first in puntata 96, fasc. 19 under *Leuciscus scardafa* [species misspelled once as scarpata].

Etymology: Scardinius: A range of lofty mountains, Scardus, forming the boundary between Moesia and Macedonia.

132. ***Scardinius erythrophthalmus*** (Linnaeus, 1758)

Cyprinus erythrophthalmus Linnaeus [C.] 1758:324 [Systema Naturae, Ed. X v. 1] Spelled erythrophtalmus by Bonnaterre 1788:199.

EN: Rudd, redeye, redfin, pearl roach.

Type locality: *Cyprinus erythrophthalmus* Linnaeus, 1758 was originally described from northern Europe. No types known.

Distribution: Caspian Sea basin.

Genus *Schizocypris* Regan, 1914 (1 species)

Schizocypris Regan [C. T.] 1914:262. Fem. *Schizocypris brucei* Regan, 1914. Type by monotypy.

Etymology: *Schizocypris*: Greek, schizein = to divide + Greek, kypris = other name for Aphrodite, proceeding from Kypris (Cyprus) Greek, kyprinos = carp.

133. ***Schizocypris altidorsalis*** Bianco & Bănărescu, 1982

Schizocypris altidorsalis Bianco [P. G.] and Bănărescu [P. M.] 1982:93, fig. 1D [Cybium 3e série. Bulletin de la Société Française d'Ichtyologie v. 6 (no. 2).

EN: Gorgak.
Type locality: Nahr-Taheri, near Zabol, Sistan, Iran, about 31°02'N, 61°30'E.
Distribution: Sistan basin.
Comment: Formerly identified as *S. brucei* Regan, 1914.

Genus *Schizopygopsis* Steindachner, 1866 (1 species)
Schizopygopsis Steindachner [F.] 1866:785. Fem. *Schizopygopsis stoliczkai* Steindachner, 1866. Type by monotypy.
Etymology: *Schizopygopsis*: Greek, schizein = to divide + Greek, pyge = tail + Greek, opsis = appearance.
134. *Schizopygopsis stolickai* Steindachner, 1866:
Schizopygopsis stolickai Steindachner [F.] 1866:786, Pl. 16 (fig. 2) [Verhandlungen der K.-K. zoologisch-botanischen Gesellschaft in Wien v. 16.
EN: False Osman.
Type locality: The type locality of this species is a stream near Hanle Monastery, Ladakh, India.
Distribution: Sistan basin.

Genus *Schizothorax* Heckel, 1838 (3 species)
Schizothorax Heckel [J. J.] 1838:11. Masc. *Schizothorax esocinus* Heckel, 1838. Type by subsequent designation. According to Kullander et al. 1999:113, the type of *Schizothorax* is *Schizothorax esocinus* and the type of *Oreinus* is *Schizothorax plagiostomus* as designated by McClelland 1842; this is an important change and needs more study. Type as *plagiostomus* apparently first designated by Bleeker 1863:196, 1863:26 and 1863:262, not *cavifrons* designated by Günther 1868.
Etymology: *Schizothorax*: Greek, schizein = to divide * Greek, thorax = breast.
135. *Schizothorax intermedius* McClelland & Griffith 1842
Schizothorax intermedius McClelland [J.] and Griffith [W.] in McClelland 1842:579, Pl. 12 (fig. 1) [Calcutta Journal of Natural History v. 2 (no. 8).
EN: Common marinka.
Type locality: *Schizothorax intermedius* was described from the "Cabul River at Jullalabad. Tarnuck River" in the Indus River basin.
Distribution: Sistan basin.
Comment: *Schizothorax schumacheri* Fowler and Steinitz, 1956 is an Iranian synonym.

136. *Schizothorax pelzami* Kessler, 1870
Schizothorax pelzami Kessler [K. F.] 1870:320, Pl. 3 (figs. 1-3) [Trudy St.-Peterburgskogo Obscestva Estestvoispytatelej = Travaux de la Société des Naturalistes de St. Pétersbourg. v. 1.
EN: Transcaspian Marinka.
Type locality: Shah-rud River, northeastern Iran.
Distribution: Hari River and Kavir basins.
Comment: *Schizothorax pelzami iranicus* Karaman, 1969 is a synonym.

137. *Schizothorax zarudnyi* (Nikol'skii, 1897)
Aspiostoma zarudnyi Nikolskii [A. M.] 1897:346 [Ezhegodnik. Zoologicheskogo Muzeya Akademii Nauk SSSR. v. 1.

EN: Sistan Marinka.
Type locality: Berg (1949) gives the collection locality as "Neizar near the southern tip of Lake Hamun-i-Farah, western edge of the Helmand delta in northwestern Seistan" based on Zarudnyi (1901).
Distribution: Sistan basin.
Comment: *Oreinus anjac* Fowler and Steinitz, 1956 from Zabol, 31°02'N, 61°30'E, eastern Iran is a synonym.

Genus *Squalius* Bonaparte, 1837 (4 species)
Squalius (subgenus of *Leuciscus*) Bonaparte [C.L.] 1837: fasc.19. Masc. *Leuciscus squalus* Bonaparte, 1837. Type by subsequent designation. Occurred in puntata 96, fasc. 19 under *Leuciscus squalus* and two additional species; also in later fascicles. Type evidently designated first by Jordan 1919:187.

138. *Squalius berak* Heckel, 1843
Squalius berak, Heckel [J.J.] 1843:1078 [88] [Ichthyologie [von Syrien]. In Russegger v. 1.
EN: Mesopotamian chub.
Type Locality: Aleppo, Syria.
Distribution: Tigris (Esmaeili et al. 2016a; Khaefi et al. 2016).
IUCN: Least Concern.

139. *Squalius lepidus* Heckel, 1843
Squalius lepidus Heckel [J.J.] 1843:1079 [89] [Ichthyologie [von Syrien]. In Russegger v. 1.
EN: Mesopotamian pike chub.
Type locality: Tigris River, Mosul, Iraq.
Distribution: Tigris (Khaefi et al. 2016).

140. *Squalius namak* Khaefi, Esmaeili, Sayyadzadeh, Geiger & Freyhof, 2016*
Squalius namak Khaefi [R.], Esmaeili [H. R.], Sayyadzadeh [G.], Geiger [M.F.] & Freyhof [J.] 2016:148, Figs. 2-4, 5c, 6, 9 [Zootaxa 4169 (no. 1)].
EN: Namak Lake chub.
Type locality: Iran: Markazi prov.: spring Bolagh (Cheshmeh Bolagh) at Shazand, east of Anjirak, 34°00'38"N 49°50'51"E.
Distribution: Namak Lake basin.

141. *Squalius turcicus* De Filippi, 1865
Squalius turcicus De Filippi [F.] 1865:359 [Note di un viaggio in Persia nel 1862.
EN: Transcaucasian chub.
Type locality: River Arax [Aras Nehri] near Erzurum, Turkey.
Distribution: Urmia Lake and southern Caspian Sea basin.
Comment: Naseka and Bogutskaya (2009) identified the *Squalius* populations of the southern Caspian Sea basin as *S. orientalis*. *Squalius orientalis* was described from Abkhazia (Berg 1949), which is situated between Georgia and Russia, in the easternmost Black Sea basin. *Squalius orientalis* is treated as a valid species by Stoumboudi et al. (2006), Doadrio and Carmona (2004) and Turan et al. (2009, 2013), without discussing in detail how it is distinguished from *S. cephalus*. Özuluğ and Freyhof (2011) discussed the case and kept *S. orientalis* as a synonym of *S. cephalus* based on the lack of studies of the morphological characters distinguishing *S. orientalis* from *S. cephalus*. Khaefi et al. (2016) include COI sequences of *S. orientalis* from Georgia and Turkey. These fishes are very close to *S. turcicus*, a species described from the upper Arax River

in Turkey by De Filippi (1865). Özuluğ and Freyhof (2011) suggested that *S. turcicus* might be a valid species occurring in the southern Caspian Sea basin and Turan et al. (2013) supported this view and provided some morphological data distinguishing this species from *S. orientalis*. Khaefi et al. (2016) suggest that *S. orientalis* and *S. turcicus* are very closely related and might represent just one species (*S. orientalis*). *Squalius turcicus* might be more widespread and *Squalius* populations from the Lake Urmia basin, as well as those from the Iranian Sefid River and from the Iranian Talar River (flowing to the Caspian Sea at Bahnamir), might belong to this species. More and geographically focused studies are needed to better understand the distribution of *S. turcicus* in the rivers of the southern Caspian Sea basin (Khaefi et al. 2016).

Genus *Tariqilabeo* Mirza & Saboohi, 1990 (2 species)
Tariqilabeo (subgenus of *Labeo*) Mirza [M.R.] and Saboohi [N.] 1990:405. Masc. *Labeo macmahoni* Zugmayer 1912. Type by original designation (also monotypic).
Comment: It was considered as synonym of *Labeo* Cuvier 1816, but a valid subgenus *Tariqilabeo* by Mirza and Saboohi (1990:405), *Crossocheilus* Kuhl and van Hasselt, 1823 by Kottelat (2013:89) and *Gonorhynchus* Mc-Clelland, 1838 by (Ciccotto and Page 2016:472). It was treated as a valid species of *Tariqilabeo* Mirza and Saboohi, 1990 by Kottelat (2016:445).
Etymology: Tariqi: a name + Labeo: Latin, labeo = one who has large lips.

142. *Tariqilabeo adiscus* (Annandale, 1919)
Discognathus adiscus Annandale [N.] 1919:68, Pls. 10 (fig. 2), 11 (fig. 1) [Records of the Indian Museum (Calcutta) v. 18 (pt 1).
EN: Sistan Latia.
Type locality: Nasratabad, Seistan, Iran.
Distribution: Small streams and rivers of eastern Iran, draining to the Hamun wetland in the Sistan basin and also in Helmand River of Afghanistan (Sayyadzadeh et al. 2015b).
Comment: It was considered as valid species by (Sayyadzadeh et al. 2015:353, Jouladeh-Roudbar et al. 2015:871, Behrens-Chapuis et al. 2015:197).

143. *Tariqilabeo diplochilus* (Heckel, 1838)
Barbus diplochilus, Heckel [J.J.] 1838:53, Pl. 10 (fig. 1) [Fische aus Caschmir].
EN: Kashmir Latia.
Type locality: Kashmir.
Distribution: Qanats, streams and rivers of eastern and south eastern Iran and also in Western Pakistan in the Mashkid and the Makran basins (Sayyadzadeh et al. 2015b).
Comment: *Gonorhynchus diplochilus* (Heckel, 1838) and *Tylognathus barbatulus* Heckel, 1844 are synonyms. The name appeared as *diplochilus* in the original description (see Heckel [J. J.] 1838:53, Pl. 10 (fig. 1) but it was spelt as *diplocheilus* in some articles.

Genus *Tinca* Cuvier, 1816 (1 species)
Tinca Garsault [F.A.P. de] 1764:406. Fem. *Cyprinus tinca* Linnaeus, 1758. Type by absolute tautonymy. Authorship changed Apr. 2015 from Cuvier 1816 to Garsault 1764.
Etymology: *Tinca*: Latin, timica; related to a predatory fish = timi, but the etymology of tench does not conform with this meaning.

144. *Tinca tinca* (Linnaeus, 1758)
Cyprinus tinca Linnaeus [C.] 1758:321 [Systema Naturae, Ed. X v. 1.

EN: Tench.
Type locality: *Cyprinus tinca* was described originally from European lakes. No types known.
Distribution: Caspian Sea basin.

Genus *Vimba* Fitzinger, 1873 (1 species)
Vimba Fitzinger [L.J.F.J.] 1873:152, 159. Fem. *Cyprinus vimba* Linnaeus, 1758. Type by absolute tautonymy, two included species, one *vimba*.
145. *Vimba persa* (Pallas, 1814)
Cyprinus persa Pallas [P.S.] 1814:310 [Zoographia Rosso-Asiatica v. 3.
EN: Persian vimba, Caspian vimba.
Type locality: *Cyprinus vimba* Pallas, 1814 was described originally from the southern coast of the Caspian Sea in lakes of the Kura River system in Azerbaijan. No types known.
Distribution: Caspian Sea basin.
IUCN: Not Evaluated.
Comment: *Vimba persa* was the subspecies in the Caspian Sea basin but is recognised as a full species by Naseka and Bogutskaya (2009).

Family Cobitidae Fitzinger, 1832 (2 genera, 7 species)
Genus *Cobitis* Linnaeus, 1758 (4 species)
Cobitis Linnaeus [C.] 1758:303. Fem. *Cobitis taenia* Linnaeus, 1758. Type designated by the ICZN (Opinion 1500); see also Opinion 2695. *Cobites* Swainson, 1839:190, 310 is a misspelling.
Etymology: *Cobitis*: Greek, kobitis, -idos = a kind of sardine; also related with the voice Greek, kobios, Latin gobius = gudgeon.
146. *Cobitis avicennae* Mousavi-Sabet, Vatandoust, Esmaeili, Geiger &Freyhof, 2014 *
Cobitis avicennae Mousavi-Sabet [H.], Vatandoust [S.], Esmaeili [H. R.], Geiger [A. F.] & Freyhof [J.] 2015:562, figs. 3-7 [Zootaxa 3914 (no. 5).
EN: Avicenna spined loach.
Type locality: Gamasiab River at Dehno, a tributary to Karkheh, Tigris, Hamedan prov., Iran.
Distribution: Tigris (Persian Gulf basin).

147. *Cobitis faridpaki* Mousavi-Sabet, Vasil'eva, Vatandoust & Vasil'ev, 2011 *:
Cobitis faridpaki Mousavi-Sabet [H.], Vasil'eva [E. D.], Vatandoust [S.] & Vasil'ev [V. P.] 2011:928, figs. 2-4 [Journal of Ichthyology v. 51 (no. 10).
EN: Faridpak's spine loach or Siahrud spined loach.
Type locality: Siahrud River, Mazandaran region, 36°26'85.05"N, 52°56'70.08"E, northern Iran, elevation 83 meters.
Distribution: Caspian Sea basin.
Comment: Populations from the southern Caspian Sea were previously identified as *Cobitis taenia* Linnaeus, 1758 (Systema Naturae, Ed. X v. 1, Europe). *Cobitis amphilekta* Vasil'eva and Vasil'ev, 2012 was described from the Kyzylagach Bay in Azerbaijan and the northeastern Caspian Sea, but till date has not been recorded from Iran. *Cobitis keyvani* Mousavi-Sabet, Yerli, Vatandoust, Özeren & Moradkhani, 2012 which was described from the Keselian stream, Talar River, southeast of the Caspian Sea basin, Mazandaran Province, north of Iran, 36°11'74.09 "N, 53°00'92.01"E is a synonym (Jouladeh-Roudbar et al. 2017).

148. ***Cobitis linea*** (Heckel, 1849)*
Acanthopsis linea Heckel [J. J.] 1847:267 [Reisen in Europa, Asien und Africa v. 2 (pt 3).
EN: Persepolis or Kor spined loach.
Type locality: The type locality of *Acanthopsis linea* is "Bäche um Persepolis " according to Heckel (1847b). Persepolis is at 29°57'N, 52°52'E in Fars, Iran.
Distribution: Kor and Hormuz.

149. ***Cobitis saniae*** Eagderi, Jouladeh-Roudbar, Jalili, Sayyadzadeh & Esmaeili 2017*
Cobitis saniae Eagderi [S.], Jouladeh-Roudbar [A.], Jalili [P.], Sayyadzadeh [G.] and Esmaeili [H. R.] 2017:51, figs. 2-9, 11b, 12c, 13 [FishTaxa v. 2 (no. 1).
EN: Sania's spined loach.
Type locality: Bara Goor River a tributary of Sefid River, near Emamzadeh Hashem, Caspian Sea basin, Guilan Province, Iran, 37°00'11"N, 49°37'49"E.
Distribution: Caspian Sea basin.

Genus *Sabanejewia* Vladykov, 1929 (3 species)
Sabanejewia Vladykov [V.D.] 1929:86. Fem. *Cobitis balcanica* Karaman, 1922. Type by original designation.
Etymology: Sabanejewia: Because of P. Sabanejev, expert in plankton.
Comment: Formerly in the genus *Cobitis*.
150. ***Sabanejewia aurata*** (De Filippi, 1863)
Cobitis aurata De Filippi [F.] 1863:391 [Archivio per la Zoologia, l'Anatomia e la Fisiologia. v. 2.
EN: Golden spined (spiny) loach.
Type locality: The type locality is possibly Sarcham-e Sofla (37°07'N, 47°54'E) in the Qezel Owzan River (a tributary of Sefidrud) drainage of the Caspian Sea basin in Iran.
Distribution: Caspian Sea basin.

151. ***Sabanejewia caspia*** (Eichwald, 1838)
Cobitis caspia Eichwald [C.E. von] 1838: 133 [Bulletin de la Société Impériale des Naturalistes de Moscou v. 11.
EN: Caspian loach.
Type locality: Caspian Sea at Lenkoran, Azerbaidjan. No types known.
Distribution: Caspian Sea basin.

152. ***Sabanejewia caucasica*** (Berg, 1906)
Cobitis caucasica Berg [L. S.] 1906:37, fig. [Izvestija Imperatorskoj Akademii Nauk, prodaetsja u Kommissionerov Imperatorskoj Akademii Nauk St. Petersburg. [= Bulletin de l'Academy Impériale des Sciences de St. Pétersbourg.] (Sér. 5) v. 24 (nos 1-2).
EN: Cuacasian spiny loach.
Type locality: Sagdan [Saagdan], Gr. Laba River, upper Kubun River, Russia.
Distribution: Caspian Sea basin.
Comment: Reported from the Anzali Mordab and lower reaches of the Safid, Tonekabon, Chalus, Heraz and Babol Rivers in Iran (Abdoli 2000) and mapped from the Caspian coast of Iran at Babol by Kottelat and Freyhof (2007). Formerly in the genus *Cobitis*. Its presence in Iran should be confirmed.

Family Nemacheilidae Regan, 1911 (7 genera and 46 species, 1 unconfirmed)

Comment: Formerly included in the family Cobitidae or the family Balitoridae (see Tang et al. 2006; Kottelat and Freyhof 2007; Freyhof et al. 2011, 216; Esmaeili et al. 2014). Iranian species were placed in the genera *Nemacheilus*, *Adiposia*, *Barbatula*, *Orthrias* and *Schistura* in earlier literature.

Genus *Eidinemacheilus* Hashemzadeh Segherloo, Ghaedrahmati & Freyhof, 2016 (1 species)

Eidinemacheilus Hashemzadeh Segherloo [I.], Ghaedrahmati [N.] and Freyhof [J.] 2016:471 Masc. *Noemacheilus smithi* Greenwood Type by original designation (and monotypy).

Etymology: The generic name is made out of the name of the ranger protecting the locality "Eidi Heidari" and *Nemacheilus*, for loaches.

153. *Eidinemacheilus smithi* Greenwood, 1976*

Noemacheilus smithi Greenwood [P. H.] 1976:130, figs. 1a-c, 2 [Journal of Zoology (London) v. 180 (no. 1).

EN: Zagros blind crested loach.

Type locality: A natural well at Kaaje-Ru, 33°05'N, 48°36'E, near Baq-e-Loveh Oasis, Zagros Mountains, Iran.

Distribution: *Eidinemacheilus smithi* is known from a well-like spring in the proximity of the Bagh-e-Levan oasis in the Sezar River drainage. The Sezar is a headwater of the Dez River. The Dez is a tributary to the Karun and the Karun flows from the Iranian Zagros Mountains westwards into the lowermost Tigris.

Genus *Oxynoemacheilus* Bănăraescu & Nalbant, 1967 (17 species, 1 unconfirmed)

Oxynoemacheilus (subgenus of *Noemacheilus*) Bănărescu [P.M.] and Nalbant [T.T.] 1966:153. Masc. *Cobitis persa* Heckel 1847. Type by original designation (also monotypic). Misspelled once as *Oxynolmacheilus* in Zoological Record for 1967. Correct spelling is apparently *Oxynoemacheilus* and not *Oxynemacheilus*.

Etymology: *Oxynoemacheilus*: Oxy + Nemacheilus: Greek, nema, -atos = filament + Greek, cheilos = lip.

Comment: *Oxynoemacheilus angorae* (Steindachner, 1897) may be a catchall species in Iran. *Nemacheilus angorae* Steindachner [F.] 1897:693 [9], Pl. 4 (fig. 4a-c) [Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien, Mathematisch-Naturwissenschaftliche Classe. v. 64. was originally described from Tabakane-Sir and Tschibuk-Tschai, both in the vicinity of Ankara, Sakarya River drainages, Black Sea basin, Turkey. Freyhof et al. (2011) doubt that O*. angorae* s.s. occurs in the Caspian Sea basin and it may not be present in Iran at all. According to Freyhof (2016), *O. angorae* is endemic to the western and Central Anatolian Black Sea basin. If *O. angorae* is restricted to Turkey, then the species for the western Caspian might be *O. lenkoranensis*. It had been frequently reported from the Caspian Sea and Lake Urmia basins.

Oxynoemacheilus araxensis (Bănărescu & Nalbant, 1978) is another species which has been frequently reported from the Caspian Sea basin of Iran (Esmaeili et al. 2014b; Jouladeh-Roudbar et al. 2015b:883). *Orthrias angorae araxensis* Bănărescu [P. M.] and Nalbant [T. T.] in Bănărescu, Nalbant and Balik 1978:259, fig. 2; Pl. 20 (figs. 1-4) [Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut v. 75, is described from Kandili Karassu, upper Araxes basin (the Aras River basin of eastern Turkey. However, it seems that the type locality of this taxon is in the Euphrates drainage. Freyhof et al. (2011) give: *Oxynoemacheilus araxensis*: ZMH 4827, holotype, 61.2 mm SL; ZMH 4826, paratypes, 5, 36.5-50.4 mm SL; ZMH 5951, paratypes, 4, 44.5-64.2 mm SL; Turkey: Erzurum prov.: Kandili Karassu, Euphrates drainage, about 39°91'N 40°85'E. This subspecies was formerly referred to as *Nemacheilus angorae bureschi* (Drensky, 1928) by Banarescu and Nalbant (1964) and Banarescu (1968). Nalbant and Bianco (1998), Fricke et al. (2007) and Freyhof et al. (2010, 2011) elevate this taxon to a species. According to Freyhof (2016b), *O. araxensis* is endemic to the uppermost Euphrates drainage and has never been confirmed from the territory of Iran and are unlikely to be found there in the future. Its presence in Iran needs confirmation.

Another species which might be find in the upper reaches of Aras River drainages in Iran is *Oxynoemacheilus*

cyri (Berg, 1910). *Nemacheilus tigris cyri* Berg [L. S.] 1910:170 [Zoologicheskago Muzeya Imperatorskoi Akademii Nauk v. 15]; is described from the upper reaches of the Kura River (Göle depression), Caspian Sea basin, near Okam village, Ardahan Province, Turkey. Its presence in Iran needs confirmation.

Oxynoemacheilus hamwii (Krupp & Schneider 1991) is another species of interest. *Nemacheilus hamwii* Krupp [F.] and Schneider [W.] 1991:24, figs. 1-5 [Senckenbergiana Biologica v. 71 (nos 1/3) was described from Nahr Afrin in Afrin, Syria, 36°31'N, 36°52'E. Holotype: SMF 17398. It has been recorded from Iran by Kamangar et al. (2014): FCFUK, uncatalogued, 10 specimens SL 41.3–62.1 mm, Gaveh-Rud River, Sirvan basin, a tributary of Tigris, Kurdistan, Iran, 34°56'33"N, 47°12'15"E, August 2011; FCFUK, uncatalogued, 3 specimens SL 37.3–42.3 mm, Razavar River, Karkheh basin, Kurdistan, Iran, 34°44'51"N, 46°51'53"E, September 2011, B.B. Kamangar, E. Ghaderi. According to Freyhof (2014) this species was known from the headwaters in the Asi drainage in Turkey and northern Syria (it is now extirpated from Syria) (Levant coastline of the Mediterranean Sea). It is now only left in the northern Asi drainage in three streams, the Yıldırım (2-5 km), Buyuk Karacay (3-5 km), and Kucuk Karacay (3-5 km) flowing to the lower Asi in Turkey, and the upper Afrin (10 km) which flows into Syria. Other records are misidentifications or are thought to now be extirpated. Further study is needed to confirm its presence in Iran.

Recently, Freyhof and Abdullah (2017) described two new species of loaches, *O. gyndes* and *O. hanae*, from the headwater streams of the upper Sirwan (Kurdish) drainage [Sirvan (Persian) or Diyala (Arabic)] in Iraqi Kurdistan (Tigris) which might be available in the Sirvan tributaries in Iran too, as Freyhof and Özuluğ (2017) pointed out that the fishes identified as *O. argyrogramm*a by Kamangar et al. (2014) that were collected from the Iranian part of the Sirvan River, a tributary of the Tigris, might be *O.* hanae.

154. *Oxynoemacheilus argyrogramma* (Heckel, 1847)

Cobitis argyrogramma Heckel [J.J.] 1847:239, Pl. 18 (fig. 3) [Reisen in Europa, Asien und Africa v. 2 (pt 3)].

EN: Two spot loach.

Type locality: *Cobitis argyrogramma* was originally described from Aleppo, Syria.

Distribution: Tigris (Persian Gulf basin).

Comment: Tigris River drainages (Saadati 1977; Kamangar et al. 2014). Kamangar et al. (2014) give: *Oxynoemacheilus argyrogramma*: FCFUK, uncatalogued, 10 specimens SL 37.3-58.2 mm, Gaveh-Rud River, Sirvan basin, a tributary of Tigris, Kurdistan, Iran, 34°56'33"N, 47°12'15"E, August 2011; FCFUK, uncatalogued, 10 specimens 48.3-62.5 mm SL, Dorud River, Sirvan basin, a tributary of Tigris, Sarvabad, Kurdistan, Iran, 35°18'45"N, 46°20'14"E, October 2011. Freyhof and Özuluğ (2017) pointed out that the fishes identified as *O. argyrogramma* by Kamangar et al. (2014) were collected in the Iranian part of the Sirvan River, a tributary of the Tigris, might in fact represent *O. hanae*. Freyhof et al. (2011) treat *O. euphraticus* as a synonym of *O. argyrogramma* and later Freyhof and Özuluğ (2017) treat *O. euphraticus* as a valid species, they found *O. euphraticus* in the area of Malatya and the species is widespread in the Euphrates and found in the Tigris drainage and *O. argyrogramma* seems to be restricted to the Queiq and the westernmost tributaries of the Euphrates. Further study is needed to confirm it from Iran.

155. *Oxynoemacheilus bergianus* (Derzhavin, 1934)

Nemachilus bergianus Derjavin [A.N.] 1934:109, fig. 8 [Trudy Azerbaidzhanskogo otdela Zakavkazskogo filiala Akademii Nauk SSSR, Sektor Zoologii v. 7.

EN: Safidrud stone loach.

Type locality: Safid River (Sefidrud) drainage.

Distribution: Caspian Sea, Urmia and Namak lake basins.

Comment: The type locality of *Nemachilus bergianus* in Latin from Derzhavin (1934) is "Systema fluminis

Sefidrud" (= Safid River). Berg (1948-1949) gives "Sefid-rud basin: Kisum village; Shah-rud R., falling into the Sefid-rud". The former is at Kisom at 37°14'N, 49°51'E or 37°12'N, 49°54'E in a gazetteer.

156. ***Oxynoemacheilus brandtii*** (Kessler, 1877)
Nemachilus brandtii Kessler [K. F.] 1877:174, Pl. 6 (fig. 23) [The Aralo-Caspian Expedition.
EN: Kura loach in Russian.
Type locality: Upper Kura River at Tbilis, Georgia, Eurasia.
Distribution: Caspian Sea and Urmia Lake basin.

157. ***Oxynoemacheilus chomanicus*** Kamangar, Prokofiev, Ghaderi & Nalbant, 2014
Oxynoemacheilus chomanicus Kamangar [B.B.], Prokofiev [A.M.], Ghaderi [E.] & Nalbant [T.T.] 2014:46, fig. 5 [Zootaxa 3755 (no. 1).
EN: Choman stone loach.
Type locality: Holotype, FCFUK 176, male, 54.9mm SL, Baneh River, (Korhe-Pazi), Baneh, Kurdistan, Iran, 36°01'03"N, 45°55'20"E.
Distribution: Tigris (Persian Gulf basin).
Comment: Recently, it has been recorded from Külat Stream; Bitlis, Hizan; 21.09.2010; 38°14'41"N 42°28'45"E, Anadere Stream; Bitlis, Tatvan; 21.09.2010, 38°18'57 "N 42°33'55"E, Kerp Stream; Bitlis, Tatvan; 21.09.2010, 38°21'24"N 42°37'39"E, Cudi Stream; Şırnak; 30.07.2011; 37°28'59"N 42°23'32"E, Beyazsu Stream; Şırnak, Uludere; 30.07.2011; 37°26'28"N 42°44'54"E, all in the upper Tigris River of Turkey (Kaya et al. 2016).

158. ***Oxynoemacheilus euphraticus*** (Bănărescu & Nalbant 1964)
Noemacheilus insignis euphraticus Bănărescu [P.M.] & Nalbant [T.T.] 1964:175, Pl. 7 (figs. 11-12) [Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut v. 61.
EN: Euphrates loach.
Type locality: Euphrates (Firat Nehri) Basin, Malatya, eastern Anatolia, Turkey. Holotype: ZMH H1889.
Distribution: Tigris (Persian Gulf basin).
Comment: Freyhof and Ozuluğ (2017) pointed out that *O. freyhofi* is distinguished from other populations of *O. euphraticus* only by 0.5% K2P sequence difference in the COI barcode region (their unpublished data) so they considered *O. freyhofi* as synonyme of *O. euphraticus*. They reported it from the Greater Zab and in streams flowing to the Greater Zab, one very small juvenile individual from the lower Lesser Zab, and from the Karun drainage in Iran. It might be more widespread.

159. ***Oxynoemacheilus elsae*** Eagderi, Jalili & Çiçek 2018*
Oxynoemacheilus elsae Eagderi [S.], Jalili [P.] & Çiçek [E.] 2018:454, figs. 1-4 [FishTaxa v. 3 (no. 2)]. Zarineh River, near Shahin-Dej city, Lake Urmia basin, west Azerbaijan Province, Iran, 36°37'40"N, 46°43'30"E. Holotype: IMNRF-UT-1404-H. Paratypes: IMNRF-UT.
EN: Urmia loach.
Type locality: Zarineh River, near Shahin-Dej city, Lake Urmia basin, west Azerbaijan Province, Iran.
Distribution: Urmia Lake basin.

160. ***Oxynoemacheilus frenatus*** (Heckel, 1843)
Cobitis frenata Heckel [J. J.] 1843:1086 [96] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).

EN: Banded Tigris loach.
Type locality: The type locality of *Cobitis frenata* is "Tigris", presumably at Mosul, Iraq (Heckel, 1843b).
Distribution: Tigris (*Oxynoemacheilus frenatus*: IMNRF-UT-1034, 13, 31-63 mm SL, Iran: Kermanshah prov.: Near Direh, at Goleyn village, Goleyn River, Tigris basin, 34°16'09"N 45°56'29"E, Jouladeh-Roudbar et al. 2016).

161. ***Oxynoemacheilus freyhofi*** Jouladeh-Roudbar, Eagderi & Hosseinpour, 2016*
Oxynoemacheilus freyhofi Jouladeh-Roudbar [A.], Eagderi [S.] & Hosseinpour [T.] 2016:95, figs. 1-7 [FishTaxa v. 1 (no. 2).
EN: Bakhtiyari loach.
Type locality: Roudbar River, tributary of Bakhtiyari River, near Kazem Abad village, 33°08'17.8"N 49°40'43.9"E, S. Eagderi and A. Jouladeh-Roudbar, 19 August 2015.
Distribution: Roudbar River, a tributary of Bakhtiyari River. It is also widespread in the Sezar and Dez rivers which drainage to the Persian Gulf. Freyhof (2016b), treated *O. freyhofi* as synonyme of *O. euphraticus* without any explanation. Further study is needed.

162. ***Oxynoemacheilus karunensis*** Freyhof, 2016*
Oxynoemacheilus karunensis Freyhof [J.] 2016:94, figs. 1-5 [Zootaxa 4175 (no. 1).
EN: Karun loach.
Type locality: Gamasiab River at Do Ab, Hamadan province, Iran, 34°22'20.76"N, 47°55'00.1"E. Holotype: ZFMK-ICH 102205. Paratypes: FSJF, SMF.
Distribution: It is known from tributaries of the Rivers Jarrahi and Karun in Iran. These rivers flow into the wetlands in the lower estuary area of the Euphrates and Tigris (Freyhof 2016b).
IUCN: Not Evaluated but it should be considered as Least Concern.

163. ***Oxynoemacheilus kiabii*** Golzarianpour, Abdoli & Freyhof, 2011*
Oxynoemacheilus kiabii Golzarianpour [K.], Abdoli [A.] & Freyhof [J.] 2011:202, figs. 1-3 [Ichthyological Exploration of Freshwaters v. 22 (no. 3)
EN: Kiabi loach.
Type locality: The holotype ZFMK 41847, 54.5 mm standard length is from Hamadan Prov., Dehnoo stream, Karkheh river drainage, 3 km west of Nahavand city, 34º10'N, 48º24'E.
Distribution: Karkheh River drainage (Tigris).

164. ***Oxynoemacheilus kurdistanicus*** Kamangar, Prokofiev, Ghaderi & Nalbant, 2014
Oxynoemacheilus kurdistanicus Kamangar [B.B.], Prokofiev [A.M.], Ghaderi [E.] & Nalbant [T.T.] 2014:38, fig. 3 [Zootaxa 3755 (no. 1).
EN: Kurdistan stone loach.
Type locality: Holotype: FCFUK 146, male, 57.8mm SL, Choman River (Tajaban), Baneh, Kurdistan, Iran, 35°56'53"N, 45°41' 40"E.
Distribution: Tigris (Persian Gulf basin).
IUCN: Not Evaluated But it should be considered as Least Concern due to its wide distribution range in Iran, Iraq and Turkey.
Comment: Sexual dimorphic characters of this species are similar to those in *O. argyrogramma* and *O. hamwii*, two widely distributed and potentially closely related species of the Tigris-Euphrates (see Kamangar et al. 2014).

It has been recently recorded from Turkey by Kaya et al. (2016) from few streams in the upper reaches of the Tigris River (Çıratan Stream; Bitlis, Mutki; 38°21'17"N 41°46'53"E, Batman Stream; Diyarbakır, Silvan; 38°09'09"N 41°12'17"E, Tigris River; Diyarbakır, Yenişehir; 38°01'48"N 40°15'14"E, Çay Stream; Bingöl, Genç; 38°38'29"N 40°23'27"E). Freyhof (2016b) recorded it from Iraq and Turkey (*Oxynoemacheilus kurdistanicus*: FSJF 2843, 1, 47 mm SL; Turkey: Diyarbakır prov.: stream Ambar at road to Silvan, 25 km east of Diyarbakır, 37.9902N 40.3824E. — FSJF 2875, 36, 27-69 mm SL; Turkey: Elazığ prov.: Tigris 5 km north of Maden, 38.4157N 39.6531E. — FSJF 2945, 6, 30–68 mm SL; Turkey: Diyarbakır prov.: Spring of Pamuk at Kocaköy, 38.2721.N 40.5628E. — FSJF 2951, 12, 44-54 mm SL; Turkey: Diyarbakır prov.: stream Bağlıca between Bismil and Tepe, 37.8084N 40.7169E. — FSJF 2957, 5, 49-54 mm SL; Turkey: Diyarbakır prov.: stream Savur between Bayındır and Ahmetli east of Tepe, 37.7637N 40.8839E. — FSJF 3369, 28, 40–61 mm SL; Iraq: Nalparez River 35°34.24'N 45°51.78'E.-FSJF 3347, 25, 50-62 mm SL; Iraq: stream north-west of Saburawa, a tributary of Tabin River, 35°50'01"N 45°06'16"E.-FSJF 3353, 9, 40-61 mm SL; Iraq: stream Kuna Massi in Sevanja, 35°47.35'N 45°24.18'E. — FSJF 3373, 54, 35–62 mm SL; Iraq: stream Suraw near Suraw village, 35°45.76'N 45°59.09'E).

165. ***Oxynoemacheilus lenkoranensis*** (Abdurakhamanov, 1962)
Nemacheilus angorae lenkoranensis Abdurakhmanov [Y.A.] 1962:285, fig. 50 [Freshwater fishes off Azerbaijan].
EN: Lenkoran stone loach.
Type locality: *Nemacheilus angorae lenkoranensis* Abdurakhamanov, 1962 (incorrectly lenkoranica in Bănărescu and Nalbant (1966)) is described from "rivers of the Lenkoran coast; Lenkoranchai, Vilyazhchai, Kumbashichai, Tangyaru, Astarinka" in the southern Caspian Sea basin. No types known.
Distribution: Caspian Sea basin.
Comment: Its presence needs confirmation by specimens.

166. ***Oxynoemacheilus longipinnis*** Coad & Nalbant, 2005*
Ilamnemacheilus longipinnis Coad [B. W.] and Nalbant [T. T.] 2005:304, figs. 1, 3 [Travaux du Muséum d'Histoire Naturelle "Grigore Antipa" v. 48].
EN: Ilam stone loach.
Type locality: Meymeh River, a tributary of the Tigris River sub-basin, 17 km west of Dehloran, Iran and about 21 km east of the Iraqi border, 32º45'30"N, 47º05'30"E.
Distribution: Tigris (Persian Gulf basin).

167. ***Oxynoemacheilus parvinae*** Sayyadzadeh, Eagderi & Esmaeili, 2016*
Oxynoemacheilus parvinae Sayyadzadeh [G.], Eagderi [S.] & Esmaeili [H. R.] 2016:238, figs. 2-10 [Iranian Journal of Ichthyology v. 3 (no. 4)].
EN: Parvin stone loach (Figs. 35, 36).
Type locality: Iran: Kermanshah Province: Javanrud city, at Sharvineh village, Leilehrud (Leileh River), a tributary of Sirvan River drainage, Tigris, 34°49'37.9"N, 46°21'30.0"E
Distribution: Tigris (Persian Gulf basin).

168. ***Oxynoemacheilus persa*** (Heckel, 1849)*
Cobitis persa Heckel [J.J.] 1847:266 [Reisen in Europa, Asien und Africa v. 2 (pt 3)].
EN: Persian stone loach.

Type locality: The type locality for *Cobitis Persa* is "Quellen um Persepolis", Fars, Iran (springs at Persepolis) according to Heckel (1847b).
Distribution: Kor River, Mond River and Lake Maharlu basins.
IUCN: Not Evaluated. But, it should be considered as Least Concern.
Comment: *Oxynoemacheilus farsicus* (Nalbant and Bianco, 1998) was frequently reported from Namak Lake, Kor River and Persis basins. It is named for Fars Province, collected from the "River Kor near Persepolis" in Fars and it is a synonym of *O. persa* according to Freyhof et al. (2011).

169. ***Oxynoemacheilus tongiorgii*** (Nalbant & Bianco, 1998)*
Seminemacheilus tongiorgii Nalbant [T. T.] & Bianco [P. G.] 1998:113, figs. 11 A-D [Italian Journal of Zoology v. 65, Suppl.
EN: Tongiorgi stone loach.
Type locality: The holotype measures 23.7 mm standard length and is from "large water spring near Darab town, Kul (Kol) River basin".
Distribution: Kor River basin.

170. ***Oxynoemacheilus zagrosensis*** Kaman-gar, Prokofiev, Ghaderi & Nalbant, 2014*
Oxynoemacheilus zagrosensis Kamangar [B. B.], Prokofiev [A. M.], Ghaderi [E.] & Nalbant [T.T.] 2014:43, fig. 4 [Zootaxa 3755 (no. 1)].
EN: Zagros stone loach.
Type locality: Holotype, FCFUK 101, male, 55.5 mm SL, Shooei River (Jemli), Baneh, Kurdistan, Iran, 35°58'01"N, 45°42'43"E.
Distribution: Tigris (Persian Gulf basin).

Genus *Paracobitis* Bleeker, 1863 (9 species)
Paracobitis Bleeker [P.] 1863:37. Fem. *Cobitis malapterura* Valenciennes, 1846. Type by original designation (also monotypic). Also in Bleeker 1863 (after 24 Oct.): 3 and possibly other Bleeker papers.
Etymology: *Paracobitis*: Greek, para = the side of + Greek, kobitis, -idos = a kind of sardine; also related with the voice Greek, kobios, Latin gobius = gudgeon.
Comment: The taxonomy of the nemacheilid loaches of the genus *Paracobitis* was reviewed by Freyhof et al. (2014), who recognized nine species in the Middle East (Iran, Iraq, Turkey). For a long time, *Paracobitis iranica* Nalbant and Bianco, 1998 had been considerd as endemic species to Namak Lake basin and *Paracobitis malapterura* (Valenciennes, 1846) as the Caspian Sea basin species. However, Freyhof et al. (2014) considered Namak populations as *P. malapterura* and treated *P. iranica* as a synonym of *P. malapterura*.
171. ***Paracobitis atrakensis*** Esmaeili, Mousavi-Sabet, Sayyadzadeh, Vatandoust & Freyhof, 2014*
Paracobitis atrakensis Esmaeili [H.R.], Mousavi-Sabet [H.], Sayyadzadeh [G.], Vatandoust [S.] & Freyhof [J.] 2014:238, figs. 1-6 [Ichthyological Exploration of Freshwaters v. 25 (no. 3)].
EN: Atrak crested loach.
Type locality: Atrak River about, 10 km east of Bojnurd, Khorasan-e-Shomali prov.: Iran, 37°29'37"N 57°26'25"E.
Distribution: Caspian Sea and Kavir basins.

172. ***Paracobitis basharensis*** Freyhof, Esmaeili, Sayyadzadeh & Geiger, 2014*
Paracobitis basharensis Freyhof [J.], Esmaeili [H. R.], Sayyadzadeh [G.] & Geiger [M.] 2014:23, figs. 13-14

[Ichthyological Exploration of Freshwaters v. 25 (no. 1).
EN: Bashar crested loach.
Type locality: Bashar River at Dehno (30°38'42.6"N 51°37'14.26"E.), headwater of Karun River, Kohkiluyeh and Boyer-Ahmad prov., Iran. Holotype: ZM-CBSU J2920, 58 mm SL.
Distribution: Tigris.

173. ***Paracobitis hircanica*** Mousavi-Sabet, Sayyadzadeh, Esmaeili, Eagderi, Patimar & Freyhof, 2015*
Paracobitis hircanica Mousavi-Sabet [H.], Sayyadzadeh [G.], Esmaeili [H. R.], Eagderi [S.], Patimar [R.] & Freyhof [J.] 2015:340, figs. 2-6 [Ichthyological Exploration of Freshwaters v. 25 (no. 4)].
EN: Hircan crested loach.
Type locality: Golestan Province, Zarrin-Gol stream, a tributary of Gorgan River, 36°50'39"N, 54°58'24"E, Iran.
Distribution: The Caspian Sea basin.

174. ***Paracobitis longicauda*** (Kessler, 1872)
Cobitis longicauda Kessler [K. F.] 1872:65 [21], Pl. 11 (figs. 30-31) [Izvestiia Imperatorskago Obschchestva Liubitelei Estestvozaniia, Antropologii i Etnografii v. 10 (no. 1)].
EN: Eastern crested loach.
Type locality: *Cobitis longicauda* was originally described from the Ak-Darya in the Zeravshan River basin of Uzbekistan.
Distribution: Hari River basin.
Comment: The species and its distribution are poorly known.

175. ***Paracobitis malapterura*** (Valenciennes, 1846)*
Cobitis malapterura Valenciennes [A.] in Cuvier and Valenciennes 1846:88, Pl. 523 [Histoire naturelle des poissons v. 18]. The genus *Paracobitis* is feminine, so the correct species spelling is probably malapterura.
EN: Namak Lake crested loach.
Type locality: Lake Namak basin, most likely from the Karaj River, which flows close to Tehran to the south.
Distribution: Namak Lake and Eastern Kavir basin.
Comment: The type locality of P*. malapterura* was not known till 2014. Iranian authors usually identify the *Paracobitis* species from the Caspian basin as *P. malapterura* (Abdoli 2000; Esmaeili et al. 2010), but there is little reason for this assumption. *Paracobitis malapterura* was described by Cuvier and Valenciennes (1846) based on two individuals (MNHN 3962 and B-3070) received in 1840 by the Muséum National d' Histoire Naturelle in Paris (see Freyhof et al. 2014). According to Freyhof et al. (2014) the type locality of this species is Namak Lake basin, most likely from the Karaj River, which flows close to Tehran to the south.

Paracobitis iranica Nalbant [T.T.] and Bianco [P.G.] 1998:114, figs. 13 A-D [Italian Journal of Zoology v. 65, Suppl.] from River Qom (Namak Lake basin) near the town of Qom, Iran is a synonym (Freyhof et al. 2014).

176. ***Paracobitis molavii*** Freyhof, Esmaeili, Sayyadzadeh & Geiger, 2014:
Paracobitis molavii Freyhof [J.], Esmaeili [H.R.], Sayyadzadeh [G.] & Geiger [M.] 2014:25, figs. 15-18 [Ichthyological Exploration of Freshwaters v. 25 (no. 1)].
EN: Molavi's creasted loach.
Type locality: Sulaymaniyah prov., Zalm at Khurmal, 35°18.38'N 45°58.26'E. Iraq. Holotype: FMK 56826, 64 mm SL.
Distribution: Tigris (Persian Gulf basin).

177. ***Paracobitis persa*** Freyhof, Esmaeili, Sayyadzadeh & Geiger, 2014*
Paracobitis persa Freyhof [J.], Esmaeili [H. R.], Sayyadzadeh [G.] & Geiger [M.] 2014:29, figs. 19-22 [Ichthyological Exploration of Freshwaters v. 25 (no. 1)].
EN: Persian creasted loach.
Type locality: Maloosjan spring east of Beiza, Kor River basin, 29°52'23"N 52°27'57"E. Iran. Holotype: ZM-CBSU J2659, 49 mm SL.
Distribution: Kor River basin.

178. ***Paracobitis rhadinaeus*** (Regan, 1906)
Nemachilus rhadinaeus Regan [C.T.] 1906:8 [Journal and Proceedings of the Asiatic Society of Bengal (New Series) v. 2 (no. 1) (art. 2)].
EN: Sistan crested loach.
Type locality: Helmand River basin, Seistan, Afghanistan.
Comment: The Catalog of Fishes spells the trivial name as *rhadinaeus* but Kottelat (2012) notes the name is an adjective. *Nemacheilus macmahoni* Chaudhuri, 1909 described from the “affluents of the Helmand" is a synonym according to Bănărescu and Nalbant (1966) who refute the opinions of Nikol'skii (1947) and Berg (1948-1949; 1949) who consider *macmahoni* to be identical to *P. malapterura*. Affluents (=headwaters) is an error for effluents (= delta) and the species is not from the upper reaches of the Helmand River basin in Afghanistan as suggested by Kottelat (2012) but from the Helmand delta in Sistan.
Distribution: Sistan basin.

179. ***Paracobitis vignai*** Nalbant & Bianco, 1998*
Paracobitis vignai Nalbant [T.T.] & Bianco [P.G.] 1998:115, figs. 14 A-D [Italian Journal of Zoology v. 65, Suppl.].
EN: Zabol crested loach.
Type locality: The holotype is 89.0 mm standard length (86.5 mm standard length measured by B.W. Coad) collected from "Nahr Taheri (Taheri spring), Zabol, Seistan (Sistan).
Distribution: Sistan basin.
Comment: It is endemic to Iran as known only from the type locality.

Genus ***Paraschistura*** Prokofiev, 2009 (13 species)
Paraschistura Prokofiev [A. M.] 2009:891. Fem. *Nemacheilus sargadensis* Nikolskii 1900. Type by original designation.
Etymology: *Paraschistura*: Generic name taken from its similarity with the genus Schistura.
Greek, para= beside +Schistura: Greek, schizein = to divide + Greek, oura = tail; an allusion to forked caudal fins.
Comment: Nemacheilid loaches of the genus *Paraschistura* are a group of poorly known species from the Tigris drainage in Turkey east throughout Iran and Pakistan to the Indus River and the Hari, Murghab and Helmand endorheic basins in Afghanistan, Iran, Pakistan and Turkmenistan (Kottelat 2012). The genus was recently reviewed by Freyhof et al. (2015) who recognized eleven species, with further new species and records.
180. ***Paraschistura abdolii*** Freyhof, Sayyadzadeh, Esmaeili & Geiger 2015*
Paraschistura abdolii Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H.R.] & Geiger [M.] 2015:19, figs. 19-23 [Ichthyological Exploration of Freshwaters v. 26 (no. 1)].
EN: Abdoli’s loach

Type locality: Kerman Province, Pol River at road between Rayen and Jiroft, Lut Basin, 29°21'06"N, 57°29'09"E, Iran.
Distribution: Kol, Hamun-e Jaz Murian and Sirjan drainage basins.

181. ***Paraschistura alta*** (Nalbant & Bianco, 1998)
Schistura alta Nalbant [T.T.] and Bianco [P.G.] 1998:118, fig. 21 [Italian Journal of Zoology v. 65, Suppl.].
EN: Helmand loach.
Type locality: Helmand river drainage, northeast of Girisk, Kajkai, Afghanistan.
Distribution: Helmand River, Sistan basin. Zahak River, Sistan and Baluchestan Province, near Zabol 30°49'32"N, 61°45'36"E (Jouladeh-Roudbar et al. 2015).

182. ***Paraschistura aredvii*** Freyhof, Sayyadzadeh, Esmaeili & Geiger 2015*
Paraschistura aredvii Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H.R.] & Geiger [M.] 2015:25, figs. 24-28 [Ichthyological Exploration of Freshwaters v. 26 (no. 1)].
EN: Anahita loach.
Type locality: Fars Province, Sarab-e Bahram spring at Sarab-e Bahram, a tributary of Fahlian River, 30°02'48"N, 51°33'34"E, Iran.
Distribution: Zohreh River drainages (Persian Gulf basin).

183. ***Paraschistura bampurensis*** (Nikol'skii, 1900)*
Nemacheilus bampurensis Nikolskii [A. hM.] 1900:414 [40] [Ezhegodnik. Zoologicheskogo Muzeya Imperatorskoi Akademii Nauk SSSR v. 4].
EN: Bampur loach
Type locality: Kjagur and Kashin [Kaekin] rivers, Bampur River near Bazman, Iran.
Distribution: Hamun-e Jaz Murian (Karvandar and Irandegan Rivers), the Hamun-e Mashkel (Mashkid) (Kormadkor River) and Makran (Sarbaz River). According to Freyhof et al. (2015), *P. bampurensis* is known from the Hamun-e Panjur basin in Pakistan, the Hamun-e Mashkel (Mashkid) basin and the eastern tributaries to the Hamun-e Jaz Murian basin in Iran and Pakistan. It is also widespread in the Iranian Bahookalat River drainage in the Gulf of Oman basin close to the Pakistan border.
Comment: *Nemachilus baluchiorum* Zugmayer, 1912: 599 is a synonym (Freyhof et al. 2015).

184. ***Paraschistura cristata*** (Berg, 1898)
Nemacheilus cristatus Berg [L.S.] 1898:19 [5], fig. [Dnevn. Zool. Otdel. Obsh. Zool. Mus. v. 2 (no. 7)].
EN: Turkmenian crested loach.
Type locality: The type locality is presumably the Hari (Tezhen) River in Turkmenistan although Ashkhabad is not on the Tedzhen River.
Distribution: Hari River basin.
Comment: Prokofiev (2009) considered it as *Metaschistura cristata* (Berg, 1898) while Freyhof et al. (2015) treated *Metaschistura cristata* as a synonym of *Paraschistura cristata.*

185. ***Paraschistura delvarii*** Mousavi-Sabet & Eagderi, 2015*
Paraschistura delvarii Mousavi-Sabet [H.] & Eagderi [S.] 2015:299, figs. 2-5 [Vertebrate Zoology v. 65 (no. 3)].
EN: Delvari's loach, Mond loach.

Type locality: Iran, Fars prov.: upstream of Mond River, Mond River drainage, the Persian Gulf basin, 29°40′22″N, 52°08′57″E.
Distribution: Mond River (Persis) (Persian Gulf basin).
Comment: It was considered to be distinct species by Freyhof et al. (2015) based on the molecular data.

186. ***Paraschistura hormuzensis*** Freyhof, Sayyadzadeh, Esmaeili & Geiger 2015*
Paraschistura hormuzensis Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H. R.] & Geiger [M.] 2015:28, figs 29-33 [Ichthyological Exploration of Freshwaters v. 26 (no. 1).
EN: Hormuz loach.
Type locality: Hormuzgan Province, Rudan River at Abnama Bridge, a tributary of Minab River, 27°28'24"N, 57°15'14"E, Iran.
Distribution: Minab River (Makran basin).

187. ***Paraschistura kessleri*** (Günther, 1889)
Nemachilus kessleri Günther [A.] 1889:109 [The Transactions of the Linnean Society of London. Second Series. Zoology v. 5 (pt 3)].
EN: Kessler loach.
Type locality: Nushki, Pishin Lora River basin, Afghanistan or Pakistan.
Distribution: Sistan and Mashkid.
Comment: *Nemacheilus kessleri* was described from Nushki, a city on Pishin River in the Lora drainage. During Gunther's times (Gunther, 1889), Nushki was situated in Afghanistan but today, it is part of Pakistan (Freyhof et al. 2015). Freyhof et al. (2015) treated *P. sargadensis* (Nikol'skii, 1900) as a synonym of *P. kessleri*.

188. ***Paraschistura naumanni*** Freyhof, Sayyadzadeh, Esmaeili & Geiger, 2015*
Paraschistura naumanni Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H. R.] & Geiger [M.] 2015:32, figs. 34-41 [Ichthyological Exploration of Freshwaters v. 26 (no. 1);
EN: Naumann loach
Type locality: Fars Province, Golabi spring, about 35 km west of Darab, a tributary of Kol River, 28°47'15"N, 54°22'19"E, Iran.
Distribution: Lake Maharlu, Persis and Hormuz.

189. ***Paraschistura nielseni*** (Nalbant & Bianco, 1998)*
Schistura nielseni Nalbant [T.T.] & Bianco [P.G.] 1998:119, figs. 22 A-C [Italian Journal of Zoology v. 65, Suppl.].
EN: Nielsen's loach (Fig. 37).
Type locality: Bazar River, Iran (Shapur Rivar, 12 km northwest of Kazerun, Iran).
Distribution: Helleh and Mond River drainages (Persis).

190. ***Paraschistura pasatigris*** Freyhof, Sayyadzadeh, Esmaeili & Geiger, 2015*
Paraschistura pasatigris Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H.R.] & Geiger [M.] 2015:37, figs. 42-47 [Ichthyological Exploration of Freshwaters v. 26 (no. 1)].
EN: Pasatigris loach.
Type locality: Khozestan Province, Bala River (Balarud), at Dezful, a tributary of Dez River, 32°20'14"N, 48°17'14"E, Iran.

Distribution: Tigris River drainages [Bala River (Balarud) and the Cholvar River, two tributaries of the Dez in the Karun drainage and from the Siah Gav in the Karkheh drainage].
Comment: Jouladeh-Roudbar et al. (2015b) considered *Paraschistura ilamensis* Vatandoust & Eagderi, 2015 as a valid species.

191. ***Paraschistura susiani*** Freyhof, Sayyadzadeh, Esmaeili & Geiger, 2015*
Paraschistura susiani Freyhof [J.], Sayyadzadeh [G.], Esmaeili [H.R.] & Geiger [M.] 2015:41, figs. 48-52 [Ichthyological Exploration of Freshwaters v. 26 (no. 1)].
EN: Susian loach, Susa loach.
Type locality: Khozestan Province, Zard River close to Rudzard village at road from Ramhormoz to Baghmalek, a tributary of Jarahi, 31°22'34"N, 49°43'11'E, Iran.
Distribution: Tigris River drainages (tributaries of the Jarahi River: the Marun, Ab-e Ala and Zard Rivers). The Jarahi Rivers flows into the Shadegan wetland in the lowermost estuary area of the Euphrates and Tigris (Persian Gulf basin).

192. ***Paraschistura turcmenica*** (Berg, 1932)
Nemachilus turcmenicus Berg [L.S.] 1932:149, fig. 1 [Zoologischer Anzeiger v. 98 (nos 5/6)].
EN: Turkmen Loach.
Type locality: Kelte-chinar River [Cherokh River] near Gyaurs (37°47'N, 58°44'E), Turkmenistan.
Distribution: Bedjestan, Hari River and Kavir basins (rivers flowing in the eastern Kavir basin and towards the western Karakum desert: the Hari in Afghanistan, Iran and Turkmenistan, the Murgabin Afghanistan and Turkmenistan and the streams of the northern slope of Kopetdag in Turkmenistan).
Comment: *Nemacheilus kessleri turcomanus* Nikolskii [G.V.] 1947:32, fig. 3 [Bulletin de la Société de las Naturalistes de Moscow, Section Biologique (n.s.) v. 52 (no. 3)] is a synonym according to Freyhof et al. (2015), but Mousavi-Sabet et al. (2015) consider it as valid species of *P. turcomana*.

Genus *Sasanidus* Freyhof, Geiger, Golzarianpour & Patimar, 2016 (1 species)
Sasanidus Freyhof [J.], Geiger [M.F.], Golzarianpour [K.] & Patimar [R.] 2016:70. Masc. *Noemacheilus kermanshahensis* Bănărescu and Nalbant 1966. Type by original designation (also monotypic).
Etymology: The genus is named for the Sassanid Empire, which was recognized as one of the leading regional powers for a period of more than 400 years. During Late Antiquity, the Sasanian Empire is considered to have been one of Iran's most important and influential historical periods (Freyhof et al. 2016).
193. ***Sasanidus kermanshahensis*** (Bănărescu & Nalbant, 1966)*
Noemacheilus kermanshahensis, Bănărescu [P. M.] & Nalbant [T.T.] 1966:151, Figs. 1-2; Pl. 19 (fig. 2) [Videnskabelige Meddelelser fra Dansk Naturhistorisk Forening, Kjøbenhavn. v. 129].
EN: Kermanshah stone loach.
Type locality: The type locality is Kermanshah in the drainage of the Karun River, a tributary of the lower Tigris river, Western Iran.
Distribution: The headwaters of the Karkheh and Dez Rivers. The Dez is a tributary to the Karun and both the Karkheh and Karun flowi from the Iranian Zagros Mountains westwards into the lowermost Tigris (Freyhof et al. 2016).

Genus *Triplophysa* Rendahl, 1933 (1 species)
Triplophysa (subgenus of *Nemacheilus*) Rendahl [H.] 1933:21. Fem. *Nemacheilus hutjertjuensis* Rendahl 1933.

Type by original designation (also monotypic).
Etymology: *Triplophysa*: Greek, triplos = thrice + Greek, physa = tube.
194. *Triplophysa stolickai* (Steindachner, 1866):
Cobitis stolickai Steindachner [F.] 1866:793, Pl. 14 (fig. 2) [Verhandlungen der K.-K. zoologisch-botanischen Gesellschaft in Wien v. 16].
EN: Tibetan stone loach.
Type locality: Umgebung River, Rupshu Province, western Tibet, elevation 15550 feet.
Distribution: Sistan basin.
Comment: Its presence needs confirmation by specimens.

Genus *Turcinoemacheilus* Bănărescu & Nalbant, 1964 (4 species)
Turcinoemacheilus Bănărescu [P.M.] & Nalbant [T.T.] 1964:178]. Masc. *Turcinoemacheilus kosswigi* Bănărescu and Nalbant 1964. Type by original designation (also monotypic).
Etymology: from Turcus (Turk)+Nemacheilus: Greek, nema, -atos = filament + Greek, cheilos = lip.
195. *Turcinoemacheilus bahaii* Esmaeili, Sayyadzadeh, Özuluğ, Geiger & Freyhof, 2014*
Turcinoemacheilus bahaii Esmaeili [H.R.], Sayyadzadeh [G.], Özuluğ [M.], Geiger [M.] & Freyhof [J.] 2014:259, figs. 3-6, 7a [Ichthyological Exploration of Freshwaters v. 24 (no. 3)].
EN: Esfahan dwarf loach.
Type locality: Esfahan province, Zayandeh River between Azadegan and Qalee Shahrokh, 32°40'54"N, 50°27'47"E, Iran. Holotype: ZM-CBSU 7193B.
Distribution: Zayandeh River (Esfahan) basin.

196. *Turcinoemacheilus hafezi* Golzarianpour, Abdoli, Patimar & Freyhof, 2013*
Turcinoemacheilus hafezi Golzarianpour [K.], Abdoli [A.], Patimar [R.] and Freyhof [J.] 2013:43, figs. 1-6, 8 [Ichthyological Exploration of Freshwaters v. 24 (no. 1)].
EN: Hafez dwarf loach.
Type locality: Stream at Joneqon, tributary of Kohrang River, Iran, 32º05'22"N, 50º39'48"E.
Distribution: Karoun and Dez drainages (lowermost part of Tigris).

197. *Turcinoemacheilus kosswigi* Bănărescu & Nalbant, 1964
Turcinoemacheilus kosswigi Bănărescu [P.M.] & Nalbant [T.T.] 1964:178, Pl. 8 (fig. 14) [Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut v. 61].
EN: Zagroz dwarf loach.
Type locality: Kapozik Kadun, Hakkari [37°34'40"N, 43°44'10"E], Tigris (Dicle Nehri basin), Turkey. Holotype: ZMH H1884. Paratypes: ZMH H1885 (6).
Distribution: Tigris (Persian Gulf basin).

198. *Turcinoemacheilus saadii* Esmaeili, Sayyadzadeh, Özuluğ, Geiger & Freyhof, 2014*
Turcinoemacheilus saadii Esmaeili [H.R.], Sayyadzadeh [G.], Özuluğ [M.], Geiger [M.] & Freyhof [J.] 2014:268, figs. 7c, 13-15 [Ichthyological Exploration of Freshwaters v. 24 (no. 3)].
EN: Saadi dwarf loach.
Type locality: Fars Province, stream Tang-e-Tizab, a tributary to Bashar River which drains to the Karoun, 30°23'12"N, 51°46'50"E, Iran. Holotype: ZM-CBSU 7169B.
Distribution: Karun River drainages (Tigris; Persian Gulf basin).

Order Characiformes (1 family, 1 genus, 1 species)
Family Serrasalmidae (1 genus, 1 species)
Genus Piaractus Eigenmann, 1903 (1 species)
199. *Piaractus brachypomus* (Cuvier, 1818)**
Myletes brachypomus, Cuvier [G.] 1818:452, Pl. 22 (fig. 1) [Mémoires du Muséum d'Histoire Naturelle, Paris v. 4]. Brazil. Holotype (unique): MNHN A-8627.
EN: Pirapitinga.
Type locality: Brazil
Distribution: Tigris (Persian Gulf basin) (see Esmaeili et al. 2017b).

Order Siluriformes (4 families, 4 genera and 6 species)
Family Bagridae Bleeker, 1858 (1 genus and 1 species)
Genus *Mystus* Scopoli, 1777 (1 species)
Mystus Scopoli [J. A.] (ex Gronow) 1777:451. Masc. *Bagrus halepensis* Valenciennes 1840. Type by subsequent designation. Type species established in Opinion 2209 (Case 3382) in 2008 as by subsequent designation of Jordan and Evermann 1917 [= Jordan 1917:17].
Etymology: *Mystus*: Greek, mystax = whiskered, used by Belon in 1553 to describe all fishes with whiskers or barbels.
200. *Mystus pelusius* (Solander, 1794)
Silurus pelusius Solander [D.C.] in Russell 1794:210, Pl. 7 (fig. 1) [Natural History of Aleppo. Second Edition v. 2].
EN: Zugzug Catfish, Tigris mystus.
Type locality: Kandili Karassu, upper Araxes basin, eastern Turkey.
Distribution: Tigris and Kol River drainages (Hormuz).
Comments: *Bagrus halepensis* Valenciennes, 1840, *Macrones aleppensis* Günther, 1864, *Macrones colvillii* Günther, 1874, and *Mystus misrai* Anuradha, 1986 are synonyms.

Family Siluridae Cuvier, 1816 (1 genus and 2 species)
Genus *Silurus* Linnaeus, 1758 (2 species)
Silurus Linnaeus [C.] 1758:304. Masc. *Silurus glanis* Linnaeus, 1758. Type by Linnaean tautonymy.
Etymology: *Silurus*: Greek, silouros = a cat fish + Greek, odous = teeth.
201. *Silurus glanis* Linnaeus, 1758
Silurus Linnaeus, 1758: 304 (type species: *Silurus glanis* Linnaeus, 1758: 304, by Linnaean tautonymy; on Official List of Generic Names in Zoology, ICZN, 1956b: 339 [Direction 56]). Gender masculine (Kottelat 2013).
EN: Wels catfish.
Type locality: Lakes of Europe, Sweden.
Distribution: Caspian Sea and Urmia Lake basins.

202. *Silurus triostegus* Heckel, 1843
Silurus triostegus Heckel [J. J.] 1843:1090 [100] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Mesopotamian catfish.
Type locality: Tigris River, near Mosul, Iraq.

Distribution: Tigris (Persian Gulf basin).

Family Sisoridae (1 genus and 2 species)
Genus *Glyptothorax* Blyth, 1860 (2 species)
Glyptothorax Blyth [E.] 1860:154. Masc. *Glyptosternon striatus* McClelland 1842. Type by subsequent designation. Text somewhat unclear, but apparently three species included. Type designated by Bleeker 1863:105.
Etymology: *Glyptothorax*: Greek, glyptes = carver + Greek, thorax = breast.
203. *Glyptothorax silviae* Coad, 1981*
Glyptothorax silviae Coad [B.W.] 1981:291, figs. 1-3 [Japanese Journal of Ichthyology v. 27 (no. 4)].
EN: Southern sucking catfish.
Type locality: "Khuzestan, stream 3 km south of Bagh-e Malek, tributary to Rud-e Zard or Ab-e Ala in the drainage of the Jarrahi River, 31°29'N, 49°54'30"E".
Distribution: Tigris and Persis (Persian Gulf basin).

204. *Glyptothorax kurdistanicus* (Berg, 1931)
Glyptosternum kurdistanicum Berg [L. S.] 1931:1267, Pl. 1 (fig. 2); fig. 1 [Izvestia Akademii nauk Soiuza Sotsialisticheskikh Reespublik. VII Seriia, Otdelenie matematischeskikh i estestvennykh nauk = Bulletin de l'Académie des sciences de 'Union des Républiques Sovuétiques Socialistes. VII Série, Classe des sciences + 1931].
EN: Kordestan sucking catfish.
Type locality: Baneh, the village Germau (or Germav) = Garmab (probably 35°51'46.46"N 45°46'33.89"E) at Little Zab, River Bané basin, Iran, elevation 1500 meters.
Distribution: Tigris (Persian Gulf basin).

Family Heteropneustidae Hora, 1936a: 209 (type genus: Heteropneustes Müller, 1840: 115) (1 genus and 1 species)
Genus *Heteropneustes* Müller, 1840 (1 species)
Heteropneustes Müller [J.] 1840:115. Masc. *Silurus fossilis* Bloch, 1794. Type by monotypy. Appeared first as above; then in Müller 1841:243. *Heteropneustes* and *Saccobranchus* were described in the same year, but the individual dates are uncertain (Kottelat 2013:245).
205. *Heteropneustes fossilis* (Bloch, 1794)**
Silurus fossilis Bloch [M. E.] 1794:46, Pl. 370 (fig. 2) [Naturgeschichte der ausländischen Fische v. 8].
EN: Stinging catfish.
Type locality: Tranquebar [Tharangambadi], India. Lectotype: ZMB 3074.
Distribution: Introduced to the Tigris River drainages (Persian Gulf basin).

Order Salmoniformes (1 family, 5 genera and 7 species)
Family Salmonidae (5 genera and 7 species)
Genus *Coregonus* Linnaeus, 1758 (1 species)
Coregonus (subgenus of *Salmo*) Linnaeus [C.] 1758:310. Masc. *Salmo lavaretus* Linnaeus, 1758. Appeared as "*Coregoni*", as subgroup of *Salmo*; made available by the ICZN. Type designated by the ICZN using Plenary Powers; on Official List (Opinion 93), *Coregonus* Lacepède 1803 and of Jarocki 1822 placed on Official Index (Direction 56).

Etymology: *Coregonus*: Greek, kore = pupils of the eye + Greek, gonia = angle.

206. *Coregonus lavaretus* (Linnaeus, 1758)**

Salmo avaretus Linnaeus [C.] 1758:310 [Systema Naturae, Ed. X v. 1].

EN: Lavaret.

Type locality: Lake Bourget, France. Neotype: MHNG 2583.51.

Distribution: Introduced to reservoirs in the Namak Lake basin. Fingerlings were released into the Karaj and Latian reservoirs near Tehran from 1965-1968 after hatching from eggs imported from Europe (Armantrout, 1980).

Genus *Oncorhynchus* Suckley, 1861 (2 species)

Oncorhynchus (subgenus of *Salmo*) Suckley [G.] 1861:313. Masc. *Salmo scouleri* Richardson, 1836. Type by original designation.

Etymology: *Oncorhynchus*: Greek, onyx, -ychos = nail + Greek, rhyngchos = snout.

207. *Oncorhynchus keta* (Walbaum, 1792)**

Salmo keta Walbaum [J.J.] 1792:72 [Petri Artedi sueci genera piscium Part 3].

EN: Chum salmon.

Type locality: Rivers of Kamchatka, Russia. No types known.

Distribution: Introduced to the Caspian Sea basin.

208. *Oncorhynchus mykiss* (Walbaum, 1792)**

Salmo mykiss Walbaum [J. J.] 1792:59 [Petri Artedi sueci genera piscium Part 3].

EN: Rainbow trout.

Type locality: Kamchatka, Russia. No types known.

Distribution: Introduced to the Tigris, Caspian Sea, Lake Urmia, Namak Lake, Kavir, Esfahan and Kor River basins, and widely farmed.

Genus *Salmo* Linnaeus, 1758 (2 species)

Salmo Linnaeus [C.] 1758:308. Masc. *Salmo salar* Linnaeus, 1758. Type by subsequent designation. Type designated by Desmarest 1856:312 according to Whitley 1939:225 but Whitley has wrong date for Desmarest; also designated by Jordan and Gilbert 1883:309. On Official List (Opinion 77, Direction 56).

Etymology: *Salmo*: Latin, salmo, Plinius = salmon.

Comments: There are controversial debates about the taxonomic status of *Salmo* populations. The numerous forms of brown trout *Salmo trutta* L., 1758 have been classified under different taxonomic groupings. For example, c. 50 species have been described for varieties of *S. trutta*, including 10 species found only in the British Isles (Elliot 1994). According to Berg (1948), *S. trutta* is represented by six subspecies within the former Soviet Union: *Salmo trutta trutta* L., 1758, *Salmo trutta labrax* Pallas, 1814, *Salmo trutta caspius* Kessler, 1877, *Salmo trutta oxianus* Kessler, 1874, *Salmo trutta aralensis* Berg, 1908 and *Salmo trutta ezenami* Berg, 1948. In recent years, new taxonomic procedures, new concepts and renewed interest in the taxonomy of European freshwater fishes has shed a new light on trout taxonomy. In parallel, the results of molecular studies have shown that *S. trutta* sensu lato is made of a number of distinct lineages (see, e.g., Bernatchez 2001; Sušnik et al. 2005; Bardakçı et al. 2006). Additionally, Kottelat and Freyhof (2007) referred to different populations of Caspian trout as *S. trutta* (northern Caspian basin), *Salmo ciscaucasicus* Dorofeeva, 1967 (western Caspian basin), and *Salmo caspius* Kessler, 1877 (southern Caspian basin). *Salmo caspius* Kessler [K. F.] 1877:62, Pl. 2 (fig. 15) [The Aralo-Caspian Expedition] was described from Kura River near Bozhii Promysel fishing grounds,

Azerbaijan. Syntypes: (3) not at ZIN. It was considered as synonym of *Salmo trutta* Linnaeus, 1758, but a valid subspecies (Berg 1948:242, Reshetnikov et al. 1997:729, Dorofeeva and Savvaitova 1998:36. Its subspecies is regarded as a full species (Naseka and Bogutskaya 2009, Fricke et al. 2007:55, Ninua and Japoshvili, 2008:168, Esmaeili et al. 2010a:374, Turan et al. 2010:362, Turan et al. 2011:32, Turan et al. 2012:234, Turan et al. 2014:285, Turan et al. 2014:149, Jouladeh-Roudbar et al. 2015b:891). Based on mtDNA analysis of the *S. trutta* populations, Hashemzadeh Segherloo et al. (2012) inferred that the populations of the Urmia and southern Caspian basins are of the same maternal origin, as showing a common haplotype. In contrast, in the case of the Karaj River population (Namak basin), the observed haplotype was unique and was not observed in other populations. Further study is needed.

209. *Salmo caspius* Kessler, 1877

Salmo caspius Kessler [K.F.] 1877:62, Pl. 2 (fig. 15) [The Aralo-Caspian Expedition].

EN: Caspian trout.

Type locality: Kura River near Bozhii Promysel fishing grounds, Azerbaijan.

Distribution: Caspian Sea.

Comment: *Salmo salar* Linnaeus, 1758 has been introduced to the Caspian Sea but no Iranian record.

210. *Salmo trutta* Linnaeus, 1758: (native and introduced, Coad and Abdoli 1993)

Salmo trutta Linnaeus [C.] 1758:308 [Systema Naturae, Ed. X v. 1].

EN: Brown trout.

Type locality: European rivers. No types known.

Distribution: Caspian, Urmia, Namak.

Comment: Brown trout were artificially planted in Gahar Lake of the upper Dez River of the Tigris River basin where viable populations existed in the 1970s in both the upper and lower lake, and more recently (B. Sandford, in litt. 1979). European brown trout were planted in the Caspian Sea and Namak Lake basin and established south of Dorud in the Zagros, and in the Zayandeh River dam but their origin is unknown (Coad and Abdoli 1993). Trout were also introduced to the Karun River basin and the Zayandeh River Dam (Y. Keivany, in litt. 1992). Trout are also recorded from the Lake Urmia basin in the upper Talkheh, Zarreineh and Tatavi rivers (Abdoli 2000) but whether these are introduced is not certain (see Coad 2017).

Salmo tigridis Turan [D.], Kottelat [M.] & Bektaş [Y.] 2011:24, fig. 1 [Zootaxa No. 2993] has been described from Çatak Stream, Tigris River drainage, Van Province, Turkey. It probably exists in Iranian waters but requires confirmation by specimens (Coad 2017).

Genus *Salvelinus* Richardson, 1836 (1 species)

Salvelinus (subgenus of *Salmo*) Richardson [J.] (ex Nilsson) 1836:169. Masc. *Salmo salvelinus* Linnaeus, 1758. Mentioned under *Salmo alipes* Richardson, as "Sub-genus, Salvelinus. Nilsson" and in text (p. 169) as a sub-group "Salvelini." Species included are those on Richardson's p. 139 as Salvelini (not an absolute direct association perhaps, see Art. 67.12 and Appendix A in Eschmeyer 1990); type by absolute tautonymy.

Etymology: *Salvelinus*: Old name for char; it is the same root of german "saibling" = little salmon.

211. *Salvelinus fontinalis* (Mitchill, 1814)**

Salmo fontinalis Mitchill [S.L.] 1814:12 [Report, in part, of Samuel L. Mitchill].

EN: Brook trout.

Type locality: New York, U.S.A. No types known.

Distribution: Introduced to the Namak Lake basin.

Comment: A private hatchery on the Jajrud imported over 1 million brook trout eggs which were raised to

fingerling size only for most to be lost in a flood in 1968. Some were planted in the Jajrud and in the Latian Reservoir in the Namak Lake basin. Survival remains unknown. Also recorded from the Sardab and Chalus rivers of the Caspian Sea basin (Annual Report, 1994-1995, Iranian Fisheries Research and Training Organization, Tehran, p. 26, 1996) but this is possibly a misidentification for *Oncorhynchus mykiss* (Coad 2017). No recent record.

Genus *Stenodus* Richardson, 1836 (1 species)
Stenodus Richardson [J.] 1836:384. Masc. *Salmo mackenzii* Richardson, 1823. Type by monotypy.
Etymology: *Stenodus*: Greek, stenos = narrow + Greek, odous = teeth.
212. *Stenodus leucichthys* (Güldenstaedt, 1772)
Salmo leucichthys Güldenstädt [J.A. von] 1772:533 [Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae v. 16 (for 1771)].
EN: Inconnu, Sheefish.
Type locality: Volga and Ural rivers from Caspian Sea, Kamtchatka, Russia. No types known.
Distribution: Caspian Sea basin.

Order Esociformes (1 family, 1 genus and 1 species)
Family Esocidae (1 genus and 1 species)
Genus *Esox* Linnaeus, 1758 (1 species)
Esox Linnaeus [C.] 1758:313. Masc. *Esox lucius* Linnaeus, 1758. Type by subsequent designation. *Exos* Nardo, 1847: col. 127 is regarded as a misspelling. Spelled Esok by Ascanius 1767:37. Type designated by Jordan and Gilbert 1883:352. On Official List (Opinion 92, Direction 56).
Etymology: *Esox*: From Greek, isox and also related with the Celtic root, eog, ehawc = salmon.
213. *Esox lucius* Linnaceus, 1758
Esox lucius Linnaeus [C.] 1758:314 [Systema Naturae, Ed. X v. 1.
EN: Northern pike.
Type locality: Europe.
Distribution: Caspian Sea basin; introduced in some lakes and reservoirs of Iran.

Order Gadiformes (1 family, 1 genus and 1 species)
Family Gadidae (1 genus and 1 species)
Comment: Nelson et al. (2016) consider *Lot lota* in the family Gadidae, subfamily Lotinae.
Genus *Lota* Oken, 1817 (1 species)
Lota Oken [L.] (ex Cuvier) 1817:1182a. Fem. *Gadus lota* Linnaeus, 1758. Type by subsequent absolute tautonymy. Technical addition of species not researched; type usually given as by tautonymy. Based on "Les Lottes" of Cuvier 1816:215.
Etymology: *Lota*: French name for the cod.
214. *Lota lota* (Linnaeus, 1758)
Gadus lota Linnaeus [C.] 1758:255 [Systema Naturae, Ed. X v. 1.
EN: Burbot.
Type locality: European lakes.
Distribution: Caspian Sea basin.

Order Gobiiformes (1 family, 15 genera 42 species) (see Tacker 2010; Nelson et al. 2016).
Family Gobiidae (15 genera and 42 species, 19 unconfirmed)
Genus *Anatirostrum* Iljin, 1930 (1 species)
Anatirostrum Iljin [B. S.] 1930:19, 31, 48. Neut. *Benthophilus profundorum* Berg, 1927. Type by original designation (also monotypic).
Etymology: *Anatirostrum*: Latin, anas = duck + Latin, rostrum = face.
Comments: Taxonomic status of gobies species of Iran needs further studies.
215. *Anatirostrum profundorum* (Berg, 1927)
Benthophilus profundorum Berg [L. S.] 1927:335, figs. 5-8 [Collection of papers in honor of Prof. Knipowitsch].
EN: Duckbill goby, Duckbill pugolovka.
Type locality: Southern Caspian Sea.
Distribution: Caspian Sea basin.

Genus *Babka* Iljin, 1927 (2 species, 2 unconfirmed)
Babka (subgenus of *Gobius*) Iljin [B. S.] 1927:132. Fem. *Gobius gymnotrachelus* Kessler, 1857. Type by monotypy. Treated as feminine, Art. 30.2.4.
Comment: Members of this genus were formerly placed in the genus *Neogobius* Iljin, 1927.
216. *Babka gymnotrachelus* (Kessler, 1857)
Gobius gymnotrachelus Kessler [K.F.] 1857:464 [Bulletin de la Société Impériale des Naturalistes de Moscou v. 30 (pt 2)].
EN: Racer goby.
Type locality: Dniester River and tributaries.
Distribution: Caspian Sea basin.
Comment: Presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

217. *Babka macrophthalma* (Kessler, 1877)
Gobius macrophthalmus Kessler [K.F.] 1877:29, Pl. 2 (fig. 6) [The Aralo-Caspian Expedition].
EN: Bigeye goby.
Type locality: Middle and southern part of Caspian Sea.
Distribution: Caspian Sea basin.
Comment: Reported from the Middle and South Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran. It has been considered as synonyme of Babka gymnotrachelus (Kessler 1857).

Genus *Benthophiloides* Beling & Iljin, 1927 (2 species)
Benthophiloides Beling [D.E.] & Iljin [B.S.] 1927:309, 324. Masc. *Benthophiloides brauneri* Beling and Iljin 1927. Type by monotypy. Also appeared in Iljin 1927:129, 131 earliest not established.
Etymology: *Benthophiloides*: Greek, benthos = depth of the sea + Greek, phyle, that loves.
218. *Benthophiloides brauneri* Beling and Iljin, 1927
Benthophiloides brauneri Beling [D.E.] and Iljin [B.S.] 1927:309, figs. 1-2, 5, 8 [Trav. Sta. Biol. Dniepre, Acad. Sci. Ukraine v. 3, livr. 7, no. 2].
EN: -
Type locality: Lower Dnieper River between Kherson and Kakhovka and southern Bug River between Novaya Odessa and Nikolayev, Ukraine.
Distribution: Caspian Sea basin.

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

219. ***Benthophiloides turcomanus*** (Iljin, 1941)
Asra turcomanus Iljin [B. S.] 1941:385, 388, figs. 1-4 [Izvestiya Akademii Nauk SSSR, Otdeleniya Biologiya Nauk No. 3 (for 1941)].
EN: -
Type locality: Caspian Sea, off Chikishlar [Chikishlyar], 37°45.5'N, 53°47'E. 9.3 meters; southwest of Ulsky Bank, 38°05'N, 52°34'E, depth 26.5 meters, Turkmenistan.
Distribution: 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 (16 species, 11 unconfirmed)
Benthophilus (subgenus of *Gobius*) Eichwald [C.E. von] 1831:77. Masc. *Gobius macrocephalus* Pallas, 1788. Type by monotypy. Appeared as subgenus of *Gobius* Linnaeus, 1758. Also appeared as new in Eichward 1838:102, and in Eichwald 1838:139 as *Bentophilus*.
Etymology: *Benthophilus*: Greek, benthos = depth of the sea + Greek, phyle, that loves.
220. ***Benthophilus abdurahmanovi*** Ragimov, 1978
Benthophilus magistri abdurahmanovi Ragimov [D.B.] 1978:793 [703] [Voprosy Ikhtiologii v. 18 (no. 5).
EN: Abdurakhmanov's tadpole goby.
Type locality: East coast of Tyuleniy Island, northern Caspian Sea, depth 2.7 meters.
Distribution: Caspian Sea basin.
Comment: Reported from the middle and south Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran.

221. ***Benthophilus baeri*** Kessler, 1877
Benthophilus baeri Kessler [K.F.] 1877:52, Pl. 4 (fig. 10) [The Aralo-Caspian Expedition].
EN: Baer pugolovka.
Type locality: Mangyshlak Penninsula, Kazakhstan; southern Caspian Sea, depth 49-266 feet [7-38 Russian fathoms].
Distribution: Caspian Sea basin.

222. ***Benthophilus casachicus*** Ragimov, 1978
Benthophilus stellatus casachicus, Ragimov [D. B.] 1978:725 [705], fig. [Voprosy Ikhtiologii v. 18 (no. 5)] was considered as a valid subspecies by Coad (1995). Bat now has been considered as valid species, *Benthophilus casachicus* Ragimov, 1978 (Reshetnikov et al. 1997:752, Vasil'eva 1998:127, Bogutskaya et al. 2001:47, Vasil'eva and Miller in Miller 2004:182, Bogutskaya and Naseka 2004:215, Boldyrev and Bogutskaya 2004:132, Boldyrev and Bogutskaya 2007:69, Neilson and Stepien 2009:96, Esmaeili et al. 2010a:376, Jouladeh-Roudbar et al. 2015b:897).
EN: -
Type locality: Kenderli Spit, eastern shore of the middle Caspian Sea, depth 36 meters.
Distribution: 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.

223. ***Benthophilus ctenolepidus*** Kessler, 1877
Benthophilus ctenolepidus Kessler [K.F.] 1877:48, Pl. 4 (fig. 11) [The Aralo-Caspian Expedition].
EN: Transparent tadpole goby.
Type locality: Caspian Sea, 40°08'N, 0°26'E of Baku, Azerbaijan.
Distribution: Caspian Sea basin.

224. ***Benthophilus granulosus*** Kessler, 1877
Benthophilus granulosus, Kessler [K.F.] 1877:57, Pl. 5 (fig. 14) [The Aralo-Caspian Expedition].
EN: Granular tadpole gobt, Granular pugolovka.
Type locality: Baku Bay, Caspian Sea, Azerbaijan.
Distribution: Caspian Sea basin.
Comment: Its presence in Iranian waters needs confirmation. Reported by Kottelat and Freyhof (2007).

225. ***Benthophilus grimmi*** Kessler, 1877
Benthophilus grimmi Kessler [K. F.] 1877:59, Pl. 5 (fig. 13) [The Aralo-Caspian Expedition].
EN: Grimm tadpole goby.
Type locality: Middle and southern Caspian Sea, depth 245-756 feet [35-108 Russian fathoms].
Distribution: 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.

226. ***Benthophilus kessleri*** Berg, 1927
Benthophilus grimmi kessleri var. Berg [L. S.] 1927:343 [Collection of papers in honor of Prof. Knipowitsch].
EN: Kessler tadpole goby.
Type locality: 41°51'N, 52°15'E, depth 75 meters, Caspian Sea.
Distribution: 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.

227. ***Benthophilus leobergius*** Berg, 1949
Benthophilus stellatus leobergius Berg [L. S.] 1949:1116, figs. 858-859 [No. 30].
EN: Caspian stellate tadpole goby.
Type locality: Astrabadskiy Bay, Caspian Sea, Iran.
Distribution: Caspian Sea basin.
Comment: Originally described as a subspecies of *B. stellatus* (Sauvage, 1874), a taxon now restricted to the Black Sea.

228. ***Benthophilus leptocephalus*** Kessler, 1877
Benthophilus leptocephalus Kessler [K. F.] 1877:45 [The Aralo-Caspian Expedition].
EN: Flat-head tadpole goby.
Type locality: Southern Caspian Sea, depth 756 feet [108 Russian fathoms, 230 meters].
Distribution: 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.

229. ***Benthophilus leptorhynchus*** Kessler, 1877
Benthophilus leptorhynchus Kessler [K.F.] 1877:56, Pl. 5 (figs. 12-12a) [The Aralo-Caspian Expedition].
EN: Short-snout tadpole goby, Short-snout pugolovka.
Type locality: Middle Caspian Sea, depth 490 feet [70 Russian fathoms].
Distribution: 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.

230. ***Benthophilus macrocephalus*** (Pallas, 1787)
Gobius macrocephalus Pallas [P.S.] 1787:352, Pl. 10 (figs. 4-6) [Nova Acta Academiae Scientiarum Imperialis Petropol-itanae v. 1 (Mém.) (for 1783)].
EN: Caspian tadpole goby, bighead tadpole goby.
Type locality: Mare Caspicum [Caspian Sea]. No types known.
Distribution: Caspian Sea basin.

231. ***Benthophilus mahmudbejovi*** Ragimov, 1976
Benthophilus mahmudbejovi Ragimov [D. B.] 1976:1196, fig. [Zoologicheskii Zhurnal v. 55 (no. 8].
EN: Small-spine tadpole goby
Type locality: Off Cape Peschanyy, middle Caspian Sea, Kazakhstan, depth 40 meters.
Distribution: 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.

232. ***Benthophilus pinchuki*** Ragimov, 1982
Benthophilus ctenolepidus pinchuki Ragimov [D. B.] 1982:49 [Zoologicheskii Zhurnal v. 61 (no. 1)].
EN: Pinchuk tadpole goby.
Type locality: Off Belyy Bugor, 37°40'N, southeastern Caspian Sea, Turkmenistan, depth 30 meters. Holotype: ZISP 53569 [ex IZA].
Distribution: Caspian Sea basin.
Comment: Formerly was considered as a subspecies of *B. ctenolepidus*.

233. ***Benthophilus ragimovi*** Boldyrev & Bogutskaya, 2004
Benthophilus ragimovi Boldyrev [V.S.] and Bogutskaya [N.G.] 2004:132, fig. 2 [Zoo-systematica Rossica v. 13 (no. 1)].
EN: Ragimov's tadpole goby.
Type locality: Western coast of Caspian Sea, off Yamma-Kilyazi, Azerbaijan, depth 50 meters.
Distribution: 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.

234. ***Benthophilus spinosus*** Kessler, 1877
Benthophilus spinosus Kessler [K.F.] 1877: 50 [The Aralo-Caspian Expedition].
EN: Spiny tadpole goby, Spiny pugolovka.
Type locality: Middle Caspian Sea, depth 140 feet [20 Russian fathoms].
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.
Distribution: Caspian Sea basin.

235. ***Benthophilus svetovidovi*** Pinchuk & Ragimov, 1979
Benthophilus svetovidovi Pinchuk [V. I.] and Ragimov [D. B.] 1979:515, fig'd [Zoologicheskii Zhurnal v. 58 (no. 4)].
EN: Svetovidov's tadpole goby.
Type locality: Caspian Sea, depth 86 meters.
Distribution: 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 (1 species)
Boleophthalmus Valenciennes [A.] in Cuvier and Valenciennes, 1837:198. Masc. Gobius boddarti Pallas, 1770. Type by subsequent designation. Type designated by Bleeker 1874:328.
Etymology: *Boleophthalmus*: Name from Greek, ßo?? for ejected and 'ophthalmos' for eye; refers to species capability to rapidly raise their eyes above the level of their orbital cavities, as if the eyes were being ejected.
236. ***Boleophthalmus dussumieri*** Valenciennes, 1837
Boleophthalmus dussumieri Valenciennes [A.] in Cuvier and Valenciennes 1837:207, Pl. 354 [Histoire naturelle des poissons v. 12].
EN: Dussumier's mudskipper
Type locality: Mumbai, India.
Distribution: Tigris, Persis, Hormuz and Makran.

Genus ***Glossogobius*** Gill, 1859 (1 species)
Glossogobius Gill [T.N.] 1859:46. Masc. *Gobius platycephalus* Richardson, 1846. Type by monotypy. Date may be 1860 or 1861.
Etymology: *Glossogobius*: Greek, glossa = tongue + Latin, gobius = gudgeon.
237. ***Glossogobius giuris*** (Hamilton, 1822)
Gobius giuris Hamilton [F.] 1822:51, 366, Pl. 33 (fig. 15) [An account of the fishes found in the river Ganges].
EN: Tang Goby.
Type locality: Ganges River, India.
Distribution: Hormuz and Makran.

Genus ***Hyrcanogobius*** Iljin, 1928 (1 species, 1 unconfirmed))
Hyrcanogobius Iljin [B. S.] 1928:44. Masc. *Hyrcanogobius bergi* Iljin, 1928. Type by monotypy.
Etymology: *Hyrcanogobius*: Composed from Hyrcania, old Persian region near of Caspian Sea + Latin, gobius = gudgeon.

238. ***Hyrcanogobius bergi*** Iljin, 1928
Hyrcanogobius bergi Iljin [B. S.] 1928:44, figs. 7-11 [Trudy Astrakhanskoi nauchnoi rybokhoziaistvennoi stantsii = Reports of the Astrakhan Scientific Fishery Station v. 6 (no. 3)].
EN: Volga dwarf goby.
Type locality: Northern Caspian Sea, near mouths of rivers Volga, Ural, and Emba, Russia and Kazakhstan.
Comment: Its presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).
Distribution: Caspian Sea basin.

Genus *Knipowitschia* Iljin, 1927 (3 species, 1 inconfirmed)
Knipowitschia Iljin [B. S.] 1927:129, 131. Fem. *Gobius longecaudatus* Kessler, 1877. Type by monotypy. Also appeared in Iljin 1928:43, and spelled once as Knipovitschia; species also seen as longicaudatus.
Etymology: *Knipowitschia*: Because of N.M. Knipowitsch, a zoologist and Russian ichthyologist from the Academy of Sciences.
239. ***Knipowitschia caucasica*** (Berg, 1916)
Pomatoschistus caucasicus Berg [L. S.] (ex Kavraisky) 1916:409 [Les Poissons des eaux douces de la Russie].
EN: Caucasian dwarf goby.
Type locality: Swamp near Batum and Inkit Lake near Pitzunda, Georgia (Eurasia).
Distribution: Caspian Sea basin.

240. ***Knipowitschia iljini*** Berg, 1931
Knipowitschia iljini Berg [L. S.] 1931:1271, Pl. 1; figs. 1-2 [Izvestia Akademii nauk Soiuza Sotsialisticheskikh Reespublik. VII Seriia, Otdelenie matematischeskikh i estestvennykh nauk = Bulletin de l'Académie des sciences de 'Union des Républiques Sovuétiques Socialistes. VII Série, Classe des sciences + 1931].
EN: Iljin's dwarf goby.
Type locality: Middle part of Caspian Sea.
Distribution: Caspian Sea basin.

241. ***Knipowitschia longecaudata*** (Kessler, 1877)
Gobius longecaudatus Kessler [K.F.] 1877: 35, Pl. 3 (fig. 8) [The Aralo-Caspian Expedition].
EN: Longtail dwarf goby.
Type locality: Southern and middle Caspian Sea.
Distribution: Caspian Sea basin.
Comment: Its presence in Iranian waters needs confirmation. Record from Kottelat and Freyhof (2007).

Genus *Mesogobius* Bleeker, 1874 (2 species, 1 unconfirmed)
Mesogobius (subgenus of *Gobius*) Bleeker [P.] 1874:317. Masc. *Gobius batrachocephalus* Pallas, 1814. Type by original designation (also monotypic).
Etymology: *Mesogobius*: Greek, mesos = half + Latin, gobius = gudgeon.
242. ***Mesogobius nigronotatus*** (Kessler, 1877)
Gobius nigronotatus Kessler [K. F.] 1877:31, Pl. 2 (fig. 7) [The Aralo-Caspian Expedition].
EN: Toad goby.
Type locality: Fort Shevchenko [Aleksandrovskiy], Caspian Sea, Kazakhstan, depth 140 feet [20 Russian fathoms]. Holotype (unique): probably not at ZIN.
Distribution: Caspian Sea basin.

Comment: Reported from the middle and south Caspian Sea by Naseka and Bogutskaya (2009) but not confirmed by specimens for Iran. Might be a synonym of *M. nonultimus* (Pinchuk and Miller in Miller, 2004).

243. *Mesogobius nonultimus* (Iljin, 1936)

Gobius nonultimus Iljin [B. S.] 1936:337 [Doklady Akademii Nauk SSSR, Ser. A (Comptes Rendus de l'Académie des Sciences de l'URSS), Leningrad v. 4].

EN: Caspian toad goby.

Type locality: 24 miles southwest of Ulsky Bank, Caspian Sea, depth 24 meters over bottom depth of 54 meters, Turkmenistan. Holotype (unique): no types known.

Distribution: Caspian Sea basin.

Genus *Neogobius* Iljin, 1927 (3 species)

Neogobius (subgenus of *Gobius*) Iljin [B.S.] 1927:135. Masc. *Gobius fluviatilis* Pallas, 1814. Type by monotypy. Iljin credits genus to Berg as a museum name, but name was made available by Iljin as above.

Etymology: *Neogobius*: Greek, neos = new + Latin, gobius = gudgeon.

244. *Neogobius caspius* (Eichwald, 1831)

Gobius caspius Eichwald [C.E. von] 1831:76 [Zoologia specialis quam expositis animalibus tum vivis Pars posterior [3].

EN: Caspian goby.

Type locality: Caspian Sea.

Distribution: Caspian Sea basin.

245. *Neogobius melanostomus* (Pallas, 1814)

Gobius melanostomus Pallas [P.S.] 1814: 151 [Zoographia Rosso-Asiatica v. 3].

EN: Round goby, black spotted goby.

Type locality: Sebvastopol, Crimea, Ukraine; Balaklava, Ukraine.

Distribution: Caspian Sea basin.

246. *Neogobius pallasi* (Berg, 1916)

Gobius fluviatilis pallasi Berg [L. S.] 1916:417 [Les Poissons des eaux douces de la Russie].

EN: Caspian sand goby.

Type locality: Caspian Sea.

Distribution: Caspian Sea basin.

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

Genus *Periophthalmus* Bloch & Schneider, 1801 (1 species)

Periophthalmus Bloch [M. E.] & Schneider [J. G.] 1801:63 (xxvii). Masc. *Periophthalmus papilio* Bloch and Schneider, 1801. Type by subsequent designation. Type apparently designated first by Bleeker 1874:326. Genus name misspelled *Periophtalmus* by Cuvier 1831:180.

Etymology: *Periophthalmus*: Greek, peri = around + Greek, ophthalmos = eye.

247. *Periophthalmus waltoni* Koumans, 1941

Periophthalmus waltoni Koumans [F.P.] 1941:288 [Memoirs of the Indian Museum v. 13 (pt 3)].

EN: Walton's mudskipper

Type locality: Iraq and Pakistan.

Distribution: Tigris, Persis, Hormuz and Makran.

Genus *Ponticola* Iljin, 1927 (6 species)

Ponticola (subgenus of *Gobius*) Iljin [B. S.] 1927:134. Masc. *Gobius ratan* Nordmann, 1840. Type by subsequent designation. Type designated by Iljin 1930:59].

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

248. *Ponticola bathybius* (Kessler, 1877)

Gobius bathybius Kessler [K. F.] 1877:17, Pl. 1 (fig. 3) [The Aralo-Caspian Expedition].

EN: -

Type locality: Svinoi Island, south of Baky, Caspian Sea, Azerbaijan, 756 feet [108 Russian fathoms]. Holotype (unique): No types at ZIN.

Comment: formerly in the genus *Chasar* Vasil'eva, 1996 but Neilson and Stepien (2009). Placed it in the genus *Ponticola* Iljin, 1927.

Distribution: Caspian Sea basin.

249. *Ponticola cyrius* (Kessler, 1874)

Gobius cyrius Kessler [K. F.] 1874:273 [83] [Trudy St.-Peterburgskogo Obscestva Estestvoispytatelej = Travaux de la Société des Naturalistes de St. Pétersbourg. v. 5].

EN: Kura River goby.

Type locality: Kura River near Borzhomi, Georgia, Eurasia.

Distribution: Caspian Sea basin.

250. *Ponticola goebelii* (Kessler, 1874)

Gobius goebelii Kessler [K. F.] 1874:249 [59] [Trudy St.-Peterburgskogo Obscestva Estestvoispytatelej = Travaux de la Société des Naturalistes de St. Pétersbourg. v. 5;].

EN: Caspian ratan or rotan goby.

Type locality: Kura River near Borzhomi, Georgia, Eurasia.

Distribution: Caspian Sea basin.

Comment: Synonym of *Neogobius ratan* (Nordmann 1840), but a valid subspecies *goebelii* (Berg 1949:1087, Miller in Whitehead et al. 1986:1064 as gobebeli, Coad 1995:31, Reshetnikov et al. 1997:756, Vasil'eva 1998:142, Pinchuk et al. 2003:357, Vasil'eva et al. 2015:196). Synonym of *Ponticola ratan* (Nordmann, 1840) (Neilson and Stepien 2009:97).

251. *Ponticola gorlap* (Iljin, 1949): 1091 [No. 30].

EN: Caspian bighead goby.

Type locality: Caspian Sea and tributary rivers.

Distribution: Caspian Sea basin.

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

252. *Ponticola iranicus* Vasil'eva, Mousavi-Sabet & Vasil'ev 2015*

Ponticola iranicus Vasil'eva [E. D.], Mousavi-Sabet [H.] & Vasil'ev [V. P.] 2015:191, figs. 2-4 [Acta Ichthyologica et Piscatoria v. 45 (no. 2).

EN: Persian goby.

Type locality: Upper Sefid-Rud, River basin, Tutkabon Stream, 36°50.756'N, 49°35.021' E.

Distribution: Caspian Sea basin.

253. ***Ponticola syrman*** (Nordmann, 1840)
Gobius syrman Nordmann [A. von] 1840:419, Pl. 12 (fig. 1) [Voyage dans la Russie méridionale et la Crimée]
EN: Syrman goby.
Type locality: Odessa, Ukraine; Kryni, Ukraine.
Distribution: Caspian Sea basin.
Comment: *Ponticola syrman eurystomus* (Kessler, 1877) has been considered as subspecies and its taxonomic status needs further study.

Genus *Proterorhinus* Smitt, 1900 (1 species)
Proterorhinus (subgenus of *Gobius*) Smitt [F. A.] 1900:544. Masc. *Gobius marmoratus* Pallas, 1814. Type by monotypy. Synonym of *Gobius* Linnaeus, 1758, but a valid subgenus *Proterorhinus* as described- (Vasil'eva 1999: 161).
Etymology: *Proterorhinus*: Greek, proteros = former + Greek, rhinos = nose.
254. ***Proterorhinus nasalis*** (De Filippi, 1863)
Gobius nasalis De Filippi [F.] 1863:390 [Archivio per la Zoologia, l'Anatomia e la Fisiologia. v. 2].
EN: Eastern tubenose goby.
Type locality: Caspian Sea near Baku.
Distribution: Caspian Sea basin.
Comment: Previously recognised as *P. marmoratus* (Pallas, 18l4); some authors consider it a synonym of this species.

Genus *Rhinogobius* Gill, 1859 (1 species)
Rhinogobius Gill [T. N.] 1859:145. Masc. *Rhinogobius similis* Gill, 1859. Type by monotypy.
Etymology: *Rhinogobius*: Greek, rhinos = nose + Latin, gobius = gudgeon.
255. ***Rhinogobius similis*** Gill 1859**
Rhinogobius similis Gill [T. N.] 1859:145 [Proceedings of the Academy of Natural Sciences of Philadelphia v. 11].
EN: Pond or lake goby.
Type locality: The Hongo Bridge, Inouzawa-gawa River, Shimoda, southern Izu Peninsula, Shizuoka Prefecture, Japan, 34°41'36.63"N, 138°56'26.25"E. Old locality: Shimoda, Izu Province, Japan.
Distribution: Caspian Sea, Urmia Lake and Hari basins. Reported from Anzali wetland by K.A (see, Esmaeili et al. 2014c) and Urmia by Eagderi and Moradi (2017).
Comments: The identity of introduced *Rhinogobius* in Iran needs to be confirmed. Vasil'eva (2007) and Vasil'eva and Kuga (2008) have identified the introduced Central Asian species as *R. cheni* (Nichols, 1931).

Genus *Scartelaos* Swainson, 1839 (1 species)
Scartelaos Swainson [W.] 1839:183, 279. Masc. *Gobius viridis* Hamilton, 1822. Type by monotypy. Hoese and Larson 2006:1682 indicate that the type is by subsequent designation of Bleeker 1874.
Etymology: Scartelaos' is probably a compound name from the Greek 'skarthmos' (leaping), and 'laos' (people, folk), which maybe refers to the typical tail-stand of males during courtship.
256. ***Scartelaos tenuis*** (Day, 1876)
Boleophthalmus tenuis Day [F.] 1876:305, Pl. 65 (fig. 1) [The fishes of India Part 2].
EN: Indian Ocean slender mudskipper.
Type locality: Estuaries of Karachi, Sind, Pakistan.

Distribution: Tigris, Persis, Hormuz and Makran.
Comment: Originally described as *Boleophthalmus tenuis* Day, 1876 from Estuaries of Karachi, Sind, Pakistan. It is found on mud flats with *Boleophthalmus dussumieri* and *Periophthalmus waltoni* in Helleh estuary.

Order Mugiliformes (1 family, 4 genera and 6 species)
Family Mugilidae (3 genera and 6 species)
Comment: Mitochondrial phylogeny of grey mullets (Mugilidae) has been recently given by Durand and Borsa (2015). *Moolgarda seheli* and *Valamugil buchanani* have been placed together with *Crenimugil crenilabis* under *Crenimugil*, and *Moolgarda cunnesius*, *Moolgarda engeli*, *Moolgarda perusii*, and *Valamugil robustus* have been placed under the resurrected genus *Osteomugil*; likewise, *Liza aurata*, *Liza bandialensis*, *Liza dumerili*, *Liza ramada*, *Liza richardsonii*, *Liza saliens*, and *Liza tricuspidens* have been placed together with *Chelon labrosus* under *Chelon*; likewise, *Chelon macrolepis*, *Chelon melinopterus*, *Chelon subviridis*, *Liza abu*, *Liza affinis*, *Liza alata*, and *Liza haematocheila* have been placed under the resurrected genus *Planiliza*; *C. planiceps* has since then been synonymized with *Liza tade* and placed under *Planiliza*; also, *Sicamugil cascasia*, *Agonostomus monticola*, *Liza argentea*, *Rhinomugil nasutus*, and *Oedalechilus labiosus* have been placed, respectively, under the resurrected genera *Minimugil*, *Dajaus*, *Gracilimugil*, *Squalomugil*, and *Plicomugil* whereas *Xenomugil thoburni* has been placed under *Mugil*; the genus names *Liza*, *Moolgarda*, *Valamugil* and *Xenomugil* have been dismissed; three new genera have been erected: *Neochelon* (for *Liza falcipinnis*), *Parachelon* (for *Liza grandisquamis*), and *Pseudomyxus* (for *Myxus capensis*).
Genus *Chelon* Artedi, 1793 (2 species)
Chelon Artedi [P.] in Röse 1793:118. Masc. *Mugil chelo* Cuvier 1829. Type by subsequent designation. Type species designated (though tentatively) by Jordan 1917:52.
Etymology: *Chelon*: Greek, chelone = turtle.
257. *Chelon aurata* (Risso, 1810)**
Mugil auratus Risso [A.] 1810:344 [Ichthyologie de Nice].
EN: Golden grey mullet.
Type locality: Nice, France, northwestern Mediterranean Sea. No types known.
Distribution: Introduced to the Caspian Sea basin.
Comment: Formerly placed in the genus *Liza* but Durand and Borsa (2015) placed it in the genus *Chelon*.

258. *Chelon saliens* (Risso, 1810)**
Mugil saliens Risso [A.] 1810:345 [Ichthyologie de Nice].
EN: Leaping mullet.
Type locality: Nice, northwestern Mediterranean Sea. No types known.
Distribution: Introduced to the Caspian Sea basin.
Comment: Formerly placed in the genus *Liza* but Durand and Borsa (2015) placed it in the genus *Chelon*.

Genus *Ellochelon* Whitley, 1930 (1 species)
Ellochelon Whitley [G.P.] 1930:251. Masc. *Mugil vaigiensis* Quoy and Gaimard, 1825. Type by original designation (also monotypic).
259. *Ellochelon vaigiensis* (Quoy and Gaimard 1825)
Mugil vaigiensis Quoy [J. R. C.] and Gaimard [J. P.] 1825:337, Pl. 59 (fig. 2).
EN: Squaretail mullet.
Type locality: Waigiou [Pulau Waigeo, Papua Barat Province, Indonesia, western Pacific.

Comment: *Liza vaigiensis* (Quoy and Gaimard, 1824) and *Mugil vaigiensis* Quoy and Gaimard, 1825 are synonyms.
Distribution: Tigris; possibly other coastal rivers in the Persian Gulf.

Genus *Mugil* Linnaeus, 1758 (1 species)
Mugil Linnaeus [C.] 1758:316. Masc. *Mugil cephalus* Linnaeus, 1758. Type by monotypy. On Official List (Opinion 75). Mugie Macklot 1830 on Official Index as an incorrect subsequent spelling (Direction 56).
260. *Mugil cephalus* Linnaeus, 1758
Mugil cephalus Linnaeus [C.] 1758:316 [Systema Naturae, Ed. X v. 1].
EN: Flathead Mullet.
Type locality: European sea, Europe.
Distribution: The Caspian Sea (Exotic), Tigris and Makran basins; possibly other coastal rivers in the Persian Gulf.
Comments: Jolodar and Abdoli (2004) and Yelghi et al. (2012) reported it from the Gomishan Lagoon but only in farms there. According to Yelghi et al. (2012) the grey mullet fingerling were imported to Iran in 1997 from Hong Kong and in coastal fish pond of northern part of Iran were successfully cultured in order to obtain broodstocks and induce artificial reproduction.

Genus *Planiliza* Whitley, 1945 (2 species)
Planiliza (subgenus of *Moolgarda*) Whitley [G.P.] 1945:17. Fem. Moolgarda (Planiliza) ordensis Whitley, 1945. Type by original designation (also monotypic).
261. *Planiliza abu* (Heckel, 1843)
Mugil abu Heckel [J. J.] 1843:1097 [107] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Abu mullet.
Type locality: Tigris River, near Mosul, Iraq.
Distribution: Tigris, Persis and Hormuz; possibly introduced in the Lake Maharlu basin.
Comments: Formerly placed in the genus *Liza* but Durand and Borsa (2015) placed it in the genus *Planiliza*. *Mugil pseudotelestes* Pietschmann, 1912 and *Mugil hishni* Misra, 1943 are synonyms. The *subspecies Mugil abu zarudnyi* Berg, 1949 from Iran is of doubtful validity.

262. *Planiliza subviridis* (Valenciennes, 1836)
Mugil subviridis Valenciennes [A.] in Cuvier and Valenciennes 1836:115 [Histoire naturelle des poissons v. 11].
EN: Greenback mullet.
Type locality: Ganges River, Malabar, India.
Distribution: Tigris and Persis (Persian Gulf basin).
Comments: Formerly placed in the genus Liza but Durand and Borsa (2015) and Xia et al. (2016) placed it in the genus *Planiliza*.

Order Cichliformes (1 family, 4 genera and 6 species) (see Nelson et al. 2016).
Family Cichlidae (4 genera and 6 species)
Genus *Amatitlania* Schmitter-Soto 2007 (1 species)
Amatitlania Schmitter-Soto [J.J.] 2007:48. Fem. *Heros nigrofasciatus* Günther, 1867. Type by original designation.

263. ***Amatitlania nigrofasciata*** (Günther 1867)**
Heros nigrofasciatus Günther [A.] 1867:601 [Proceedings of the Zoological Society of London 1866 (pt 3)].
EN: Convict cichlid.
Type locality: Lake Amatitlán, Guatemala.
Distribution: Reported from headwater of Kol River (Hormuz) (Esmaeili et al. 2013) and Soleymaniyeh spring, Namak Lake basin (Mousavi-Sabet and Eagderi 2016). It seems that the population from Kol River has been established due to its presence till Feb. 2017.

Genus *Coptodon* Gervais 1853 (1 species)
Coptodon Gervais [F. L. P.] 1853:8. Masc. *Acerina zillii* Gervais, 1848. Type by original designation (also monotypic). Also appeared as new in Gervais 1853:80; there twice misspelled as *Coptodus*. Earliest publication not researched.
Etymology: *Coptodon*: Bechuana, African native thiape = fish.
264. ***Coptodon zillii*** (Gervais, 1848)**
Acerina zillii Gervais [F. L. P.] 1848:203 [Annales des Sciences Naturelles, Paris (Zoologie) (Sér. 3) v. 10].
EN: Zill's tilapia, redbelly tilapia.
Type locality: Artesian well, Tuggurth, Algeria [North Africa].
Distribution: Tigris. Reported from the Shadegan wetland, (Jarahi River) which drains into the Persian Gulf (Khaefi et al. 2014).
Comment: *Tilapia zillii* (Gervais, 1848) [sometimes as *zilli*] is a synonym.

Genus *Iranocichla* Coad, 1982 (3 species)
Iranocichla Coad [B. W.] 1982:28. Fem. *Iranocichla hormuzensis* Coad, 1982. Type by original designation (also monotypic).
Etymology: Irano: Iran, the country of origin of species + Cichla: Cichlidae, the family to which it belongs.
265. ***Iranocichla hormuzensis*** Coad, 1982*
Iranocichla hormuzensis Coad [B.W.] 1982: 29, figs. 1-3 [Copeia 1982 (no. 1)].
EN: Hormuz cichlid.
Type locality: Mehran River, Hormozdgan Province, southern Iran, 27°04'N, 54°35'E.
Distribution: Mehran River (Hormuz).

266. ***Iranocichla persa*** Esmaeili, Sayyadzadeh & Seehausen 2016*
Iranocichla persa Esmaeili [H.R.], Sayyadzadeh [G.] & Seehausen [O.] 2016:144, figs. 3-5 [ZooKeys v. 636].
EN: Persis cichlid.
Type locality: Hormugzan Province, Shur River approx. 30 km east of Bandar Abbas, Iran, 27°17'40.10"N, 56°29'15.68"E.
Distribution: Shur, Hasanlangi and Minab River drainages flowing into the Persian Gulf at the Strait of Hormuz.

267. ***Iranocichla* sp.***
Hormuz (Kol River drainages, see Schwarzer et al. 2016).

Genus *Oreochromis* Günther, 1889 (1 species)
Oreochromis Günther [A.] 1889:70. Masc*. Oreochromis hunteri* Günther, 1889. Type by monotypy.
Etymology: *Oreochromis*: Latin, aurum = gold + Greek, chromis = a fish, perhaps a perch.

268. *Oreochromis aureus* (Steindachner, 1864)**
Chromis aureus Steindachner [F.] 1864:229, Pl. 8 (fig. 5) [Verhandlungen der K.-K. zoologisch-botanischen Gesellschaft in Wien v. 14].
EN: Blue tilapia.
Type locality: West Africa.
Distribution: Tigris (Arvand and Karun River drainages/Persian Gulf basin).

Order Atheriniformes (1 family, 1 genus and 1 species)
Family Atherinidae (1 genus and 1 species)
Genus *Atherina* Linnaeus, 1758 (1 species)
Atherina Linnaeus [C.] 1758:315. Fem. *Atherina hepsetus* Linnaeus, 1758. Type by monotypy. Spelled Atherine by Berkenhout 1789:82. On Official List (Opinion 75).
Etymology: Atherina: Greek, atherina, the Greek name for the eperlane.
269. *Atherina caspia* Eichwald, 1831
Atherina presbyter caspia var. Eichwald [C.E. von] 1831:72 [Zoologia specialis quam expositis animalibus tum vivis Pars posterior [3].
EN: Caspian silverside.
Type locality: Caspian Sea. No types known.
Comment: *Atherina presbyter* var. *caspia* Eichwald, 1831 was recognised as the taxon in Iran, later synonymised with *Atherina boyeri* Risso, 1810, but now considered distinct (Naseka and Bogutskaya 2009) and this is followed by Esmaeili et al. (2014b) and Jouladeh-Roudbar et al. (2015b).
Distribution: Caspian Sea basin.

Order Cyprinodontiformes (2 families, 4 genera and 19 species)
Family Aphaniidae (1 genus and 15 species)
Genus *Aphanius* Nardo, 1827 (15 species)
Aphanius Nardo [G.D.] 1827:34, 39-40. Masc. *Aphanius nanus* Nardo, 1827. Type by subsequent designation. Also in Isis, v. 20:482 (seen). Type designated by Jordan 1917:121. Proposal submitted to the ICZN to conserve this name (Kottelat and Wheeler 2001:110); conserved in Opinion 2057. Name was placed on the Official List of Specific Names in Zoology (Opinion 2057).
Comment: *Lebias* Goldfuss [G.A.] 1820. Masc. *Lebias fasciata* Valenciennes 1821. Type by subsequent designation. Formerly placed in the genera *Lebias* Goldfuss, 1820 or *Cyprinodon* Lacepède, 1809. Taxonomic status of the *Aphanius dispar* complex group has been recentely reviewed (see Freyhof et al. 2017a, b; Esmaeili et al. 2018; Teimori et al. 2018).
270. *Aphanius arakensis* Teimori, Esmaeili, Gholami, Zarei & Reichenbacher, 2012*
Aphanius arakensis Teimori [A.], Esmaeili [H. R.], Gholami [Z.], Zarei [N.] & Reichenbacher [B.] 2012:62, figs. 2A, B, 5 [ZooKeys No. 215].
EN: Arak tooth-carp.
Type locality: small pond, Namak Lake basin, 34°00'N, 49°50'E, 5 km southeast of the city of Arak, Iran, elevation 1786 meters. Holotype: ZM-CBSU 10999.
Distribution: Namak Lake basin.

271. *Aphanius darabensis* Esmaeili, Teimori, Gholami & Reichenbacher, 2014*
Aphanius darabensis Esmaeili [H. R.], Teimori [A.], Gholami [Z.] and Reichenbacher [B.] 2014:254, figs. 2-3,

4A-E [Zootaxa 3786 (no. 3)].
EN: Darab tooth-carp, Kol tooth-carp.
Type locality: Fars, Darab, Korsiah Banaki spring-stream system, Kol River, 28°46'24.96"N, 54°23'35.48"E, Iran, altitude 1027m. Holotype: ZM-CBSU 9713.
Distribution: Hormuz (Kol River drainages).

272. ***Aphanius farsicus*** Teimori, Esmaeili & Reichenbacher 2011*
Aphanius farsicus, Teimori [A.], Esmaeili [H.R.] and Reichenbacher [B.] 2011:55, figs. 2-3 [Zootaxa No. 3096].
EN: Fars tooth-carp.
Type locality: Spring on the edge of Shiraz [Maharlu] Lake, southern Iran. Syntypes: ZSI F9403-04 (2).
Distribution: Lake Maharlu basin.
Comment: Replacement name for *Aphanius persicus* (Jenkins, 1910), preoccupied by *Aphanius persicus* (Priem, 1908) in fossil fishes.

273. ***Aphanius furcatus*** Teimori, Esmaeili, Erpenbeck & Reichenbacher, 2014*
Aphanius furcatus Teimori [A.], Esmaeili [H.R.], Erpenbeck [D.] & Reichenbacher [B.] 2014:329, figs. 2a-b, 3, 4a-d, 5a-e, 6a [Zoologischer Anzeiger v. 253].
EN: Scaleless tooth-carp.
Type locality: Shur River, along the BandarAbbas–Minab road, 20 km East of Bandar Abbas 27°19'37.6"N, 56°28'10.2"E altitude 2m), Iran, Hormuzgan province, collected on 26th September 2010 by A. Teimori, H.R. Esmaeili, A. Gholamifard and R. Khaefi.
Distribution: Hormuz (Kol and Mehran River drainages) and Makran basin.

274. ***Aphanius ginaonis*** (Holly, 1929)*
Cyprinodon ginaonis Holly [M.] 1929:63 [2] [Anzeiger der Akademie der Wissenschaften in Wien, Mathematisch Naturwissen-schaftliche Klasse v. 66 (no. 7)].
EN: Geno (Genow) tooth-carp.
Type locality: Hot spring at Ginao (Genow), north of Bandar Abbas, southeastern Iran. Syntypes: (3 in original) NMW 13800-03 (1, 1, 1, 1). On p. 2 of separate.
Distribution: Hormuz basin.

275. ***Aphanius hormuzensis*** Teimori, Esmaeili, Hamidan & Reichenbacher 2018*
Aphanius hormuzensis Teimori [A.], Esmaeili [H. R.], Hamidan [N.] & Reichenbacher [B.] 2018: [7], figs. 3, 4, 5a-f [Journal of Zoological Systematics and Evolutionary Research = Zeitschrift für zoologische Systematik und Evolutionsforschung Early view]. Mahran River, Gotab village, 15 km south of Bastak, Hormuzgan Province, Iran, 27°08'39.8"N, 54°15'46.1"E, elevation 330 meters. Holotype: ZM-FISBUK 157. Paratypes: ZM-FISBUK.
EN: Hormuz tooth-carp.
Type locality: Mahran River, Gotab village, 15 km south of Bastak, Hormuzgan Province, Iran.
Distribution: Hormuzgan basin, Iran.

276. ***Aphanius isfahanensis*** Hrbek, Keivany & Coad, 2007*
Aphanius isfahanensis Hrbek [T.], Keivany [Y.] & Coad [B.W.] 2006:245, figs. 2A, B [Copeia 2006 (no. 2)].
EN: Esfahan tooth-carp.

Type locality: Zayandeh Rud (Zayandeh River) at Varzaneh Bridge, 32°25'32"N, 52°39'14E, Isfahan Province, Iran. Holotype: CMNFi 2004-0001.
Distribution: Zayandeh Rud (Esfahan) basin.

277. ***Aphanius kavirensis*** Esmaeili, Teimori, Gholami & Reichenbacher 2014*
Aphanius kavirensis Esmaeili [H.R.], Teimori [A.], Gholami [Z.] & Reichenbacher [B.] 2014:259, figs. 4F-J, 6-7 [Zootaxa 3786 (no. 3)].
EN: Kavir tooth-carp.
Type locality: Semnan, Damghan, Cheshmeh Ali Spring, Kavir Basin, 36°16'45.6"N, 54°05'01.6"E, Iran, altitude 1569 meters. Holotype: ZM-CBSU 9587a.
Distribution: Kavir basin.

278. ***Aphanius mento*** (Heckel, 1843)
Lebias mento Heckel [J. J.] 1843:1089 [99] [Ichthyologie [von Syrien]. In Russegger v. 1 (pt 2).
EN: Iridescent toothcarp.
Type locality: Mossul, northern Iraq (36°18'N, 43°18'E). Possible syntypes: NMW 21699-704 (6), 59832 (21).
Distribution: Tigris (Persian Gulf basin).
Comment: *Lebias cypris* Heckel, 1843 is a synonym.

279. ***Aphanius mesopotamicus*** Coad, 2009
Aphanius mesopotamicus Coad [B.W.] 2009:150, fig. 1 [ZooKeys No. 31].
EN: Mesopotamian toothcarp
Type locality: Khuzestan, canal branch of Karkheh River, 31°40'N, 48°35'E, Iran. Holotype: CMNFI 1979-0360A.
Distribution: Tigris (Karkheh and Jarrahi Rivers).

280. ***Aphanius pluristriatus*** (Jenkins 1910)*
Cyprinodon pluristriatus Jenkins [J.T.] 1910:125, Pl. 6 (fig. 5) [Records of the Indian Museum (Calcutta) v. 5 (art. 12)].
EN: Mond tooth-carp.
Type locality: East of Shiraz, stream running to Fussa [Fasa], southern Iran, elevation 5000 feet. Syntypes: ZSI F9408-9411 (4), F9412 (?).
Distribution: Mond river tributaries (Persis).

281. ***Aphanius shirini*** Gholami, Esmaeili, Erpenbeck & Reichenbacher, 2014*
Aphanius shirini Gholami [Z.], Esmaeili [H. R.], Erpenbeck [D.] & Reichenbacher [B.] 2014:132, figs. 3a-b [Journal of Zoological Systematics and Evolutionary Research = Zeitschrift für zoologische Systematik und Evolutionsforschung v. 52 (no. 2)].
EN: Shirin tooth-carp.
Type locality: Paselari spring of the Khosroshirin spring-stream system, Khosroshirin Village, Abadeh City, Fars, uppermost reaches of Kor River Basin, 30°53'29.5"N, 52°00'36.8"E, Iran, altitude 2327 meters. Holotype: ZM-CBSU, ZG151.
Distribution: Endemic to the Kor River basin but has been translocated to the Helleh River drainage (Persis).

282. ***Aphanius sophiae*** (Heckel, 1849)*
Lebias sophiae Heckel [J. J.] 1847:267, Pl. 22 [Reisen in Europa, Asien und Africa v. 2 (pt 3)].
EN: Kor tooth-carp.
Type locality: Accepted locality: endorheic Kor River basin north of Shiraz, Fars Province, Iran. Kor River basin.
Distribution: Endemic to the Kor River basin but has been translocated to the Persis and Tigris.
Comments: *Lebias punctatus* Heckel, 1849, *Lebias crystallodon* Heckel, 1849 and possibly *Cyprinodon blanfordii* Jenkins, 1910 are synonyms.

283. ***Aphanius stoliczkanus*** (Day, 1872)
Cyprinodon stoliczkanus Day [F.] 1872:258 [Journal of the Asiatic Society of Bengal v. 41 (pt 2, nos 1-4)]. Stream at the village Joorun and along edge of the Rann River, Lodai, India, 22°30'N, 69°20'E. Syntypes: (28) AMS B.7730-31 (2), BMNH 1889.2.1.2065-2074 (orig. 21), ZSI 1477-78 (1, 1). Type catalog: Whitehead and Talwar 1976:158, Ferraris et al. 2000:302.
EN: Eastern tooth-carp, Indian tooth-carp.
Type locality: Stream at the village Joorun and along edge of the Rann River, Lodai, India.
Distribution: Mond River (Persian Gulf basin) and Masskid basin (see Teimori et al. 2018).

284. ***Aphanius vladykovi*** Coad, 1988*
Aphanius vladykovi Coad [B.W.] 1988:115, fig. 1 [Environmental Biology of Fishes v. 23 (no. 1-2)].
EN: Zagros tooth-carp.
Type locality: Large pool in Shahrestan-e Bakhtiari va Chahar Mahall, 3km west of Boldaji, Iran, 31°57'N, 51°01'E, elevation about 2380m. Holotype: NMC 79-0247.
Distribution: Tigris.

Family Poeciliidae (3 genera and 4 species)
Genus *Gambusia* Poey, 1854 (1 species)
Gambusia Poey [F.] 1854:382, 390. Fem. *Gambusia punctata* Poey, 1854. Type by subsequent designation. Type apparently designated first by Bleeker 1864:140, also by Jordan and Copeland 1877:142. On Official List (Opinion 375).
Etymology: *Gambusia*: Gambusia: From the Cuban term, Gambusino, which means "nothing", usually in the context of a joke or a farce. Fishing for gambusinos = when one catches nothing.
285. ***Gambusia holbrooki*** Girard, 1859**
Gambusia holbrooki Girard [C.F.] (ex Agassiz) 1859:62 [Proceedings of the Academy of Natural Sciences of Philadelphia v. 11].
EN: Eastern mosquitofish (Fig. 39).
Type locality: Palatka, eastern Florida; Charleston, South Carolina, U.S.A. Syntypes: ANSP 6976-77 (2) Palatka, MCZ 35999 [ex USNM 8301] (5) Charleston, USNM 8301 (45).
Distribution: Introduced to all basins.

Genus *Poecilia* Bloch & Schneider 1801 (2 species)
Poecilia Bloch [M.E.] & Schneider [J.G.] 1801: 452. Fem. *Poecilia vivipara* Bloch and Schneider, 1801. Type by subsequent designation [not by monotypy]. Type designated by Bleeker 1864:140. Spelled Paecilia by McClelland 1839:300.

Etymology: *Poecilia*: Greek, poikilos = with a lot of colours.

286. *Poecilia reticulata* Peters, 1859**

Poecilia reticulata Peters [W. (C. H.)] 1859:412 [Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin 1859].

EN: Guppy.

Type locality: Guayre River, Caracas, Venezuela.

Distribution: Namak basin.

287. *Poecilia latipinna* (Lesueur, 1821)**

Mollienesia latipinna Lesueur [C. A.] 1821:3, Pl. 3 [Journal of the Academy of Natural Sciences, Philadelphia v. 2 (pt 1)]. Freshwater ponds in the vicinity of New Orleans, Louisiana, U.S.A. Lesueur specimens: MNHN B-0929 (8). Type catalog: Bertin and Estève 1950:30.

EN: Sailfin molly.

Type locality: Freshwater ponds in the vicinity of New Orleans, Louisiana.

Distribution: Esfahan and Tigris (Persian Gulf basin) (see Esmaeili et al. 2017b).

Genus *Xiphophorus* Heckel, 1848 (1 species)

Xiphophorus Heckel [J. J.] 1848:291. Masc. *Xiphophorus hellerii* Heckel, 1848. Type by subsequent designation. Type designated by Bleeker 1864:140, also by Günther 1866:349.

Etymology: *Xiphophorus*: Greek, xiphos = sword + Greek, pherein = to carry.

288. *Xiphophorus hellerii* Heckel, 1848**

Xiphophorus hellerii Heckel [J. J.] 1848:291, Pl. 8 (figs. 1-3) [Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe v. 1 (pt 1-5) [1848].

EN: Green swordtail.

Type locality: Orizaba, Mexico [Atlantic]. Syntypes: NMW 60543 (8).

Distribution: Introduced to the Namak Lake and Persis.

Order Synbranchiformes (1 family, 1 genus and 1 species)

Family Mastacembelidae (1 genus and 1 species)

Comment: Mastecembelinae Swainson, 1839: 175 (type genus: *Mastacembelus* Scopoli, 1777: 458; *Mastecemblus* is an erroneous subsequent spelling; correct stem is Mastacembel– and correct spelling is Mastacembelidae).

Genus *Mastacembelus* Scopoli, 1777 (1 species)

Mastacembelus Scopoli [J.A.] (ex Gronow) 1777:458. Masc. *Ophidium* [sic] *mastacembelus* Banks and Solander, 1794. Type apparently by subsequent monotypy. Appeared first without species; addition of species not researched. Scopoli's spelling is *Mastocembelus* on Gronow's 1763 unavailable [*Mastacembelus*]; Scopoli's spelling regarded as in error (see Sufi 1956:106.

Etymology: *Mastacembelus*: Greek, mastax, -agos = bite + Greek, emballo = to throw oneself.

289. *Mastacembelus mastacembelus* (Banks & Solander, 1794):

Ophidium mastacembelus Banks [J.] and Solander [D.C.] in Russell 1794:209, Pl. 6 [Natural History of Aleppo. Second Edition v. 2].

EN: Mesopotamian spiny eel.

Type locality: Kowick River, Aleppo [Quwayq River, Halab, Syria].

Comment: *Rhynchobdella haleppensis* Bloch and Schneider, 1801 is a synonym. *Mastacembelus aleppensis*

Günther, 1861 is an unjustified emendation of *haleppensis*.
Distribution: Tigris, Kor and Persis. Its presence from the Kor River should be confirmed by specimen.

Order Anabantiformes
Family Channidae (1 genus and 1 species)
Genus *Channa* Scopoli, 1777 (1 species)
Channa Scopoli [J. A.] (ex Gronow) 1777:459. Fem. *Channa orientalis* Bloch and Schneider, 1801. Type by subsequent monotypy. Appeared without species; first addition of species apparently one treated by Bloch and Schneider 1801:496, lvi].
290. *Channa gachua* (Hamilton, 1822)
Ophicephalus gachua Hamilton [F.] 1822:68, 367, Pl. 21 (fig. 21) [An account of the fishes found in the river Ganges].
EN: Dwarf snakehead
Type locality: Ponds and ditches of Bengal.
Distribution: Hamun-e Jaz Murian, Makran and Mashkid basins.
IUCN: Least Concern.
Comment: Formerly in the genus Ophicephalus.

Order Syngnathiformes (1 family, 1 genus and 1 species)
Family Syngnathidae (1 genus and 1 species)
Genus *Syngnathus* Linnaeus, 1758 (1 species)
Syngnathus Linnaeus [C.] 1758:336. Masc. *Syngnathus acus* Linnaeus 1758. Type by subsequent designation. Type designated by Fowler 1906:93, predating Jordan 1912:103 as given by ICZN; on Official List (Opinion 77, Direction 56).
Etymology: *Syngnathus*: Greek, syn, symphysis = grown together + Greek, gnathos = jaw.
291. *Syngnathus caspius* Eichwald, 1831
Syngnathus caspius Eichwald [C.E. von] 1831:61 [Zoologia specialis quam expositis animalibus tum vivis Pars posterior [3]].
EN: Caspian pipefish.
Type locality: Balkhan Bay, Caspian Sea. Syntypes: whereabouts unknown.
Distribution: Caspian Sea basin.
IUCN: Least Concern.
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 and Bogutskaya 2009). Betancur et al. (2013) and Nelson et al. (2016) placed Syngnathidae in order Syngnathiformes.

Order Perciformes (1 family, 2 genera 3 species)
Family Percidae (2 genera and 3 species)
Genus *Perca* Linnaeus, 1758 (1 species)
Perca Linnaeus [C.] 1758:289. Fem. *Perca fluviatilis* Linnaeus, 1758. Type by subsequent designation. Type designated by Gill 1861:48. On Official List (Opinion 77, Direction 56).
Etymology: *Perca*: Greek, perke = perch, a fish without identification.
292. *Perca fluviatilis* Linnaeus, 1758
Perca fluviatilis Linnaeus [C.] 1758:289 [Systema Naturae, Ed. X v. 1].

EN: Perch.
Type locality: Europe. Syntypes: BMNH 1853.11.12.3 [Gronovius coll.] (1, skin), LS 1 (right half-skin).
Distribution: Caspian Sea basin.

Genus *Sander* Oken, 1817 (2 species)
Sander Oken [L.] (ex Cuvier) 1817:1182 =1782. Masc. *Perca lucioperca* of Bloch (= *Perca lucioperca* Linnaeus, 1758). Type by monotypy. Based on "Les Sandres" of Cuvier 1816:294 (see Gill 1903:966). Cuvier gave the species as Perca Lucio perca, but this is not a trinomen but the way some species were presented in early literature.
293. *Sander lucioperca* (Linnaeus, 1758)
Perca lucioperca Linnaeus [C.] 1758:289 [Systema Naturae, Ed. X v. 1].
EN: Pike perch.
Type locality: European lakes. No types known.
Distribution: Caspian Sea basin; introduced to lakes and reservoirs throughout Iran.

294. *Sander marinus* (Cuvier, 1828)
Lucioperca marina Cuvier [G.] in Cuvier and Valenciennes, 1828:120 [Histoire naturelle des poissons v. 2].
EN: Estuarine perch.
Type locality: Black Sea; Sea of Azov. No types known
Distribution: Caspian Sea basin.

Order Scorpaeniformes (1 family, 2 genera and 2 species) (see Nelson et al. 2016).
Family Gasterosteidae (2 genera and 2 species)
Genus *Gasterosteus* Linnaeus, 1758 (1 species)
Gasterosteus Linnaeus [C.] 1758:295. Masc. *Gasterosteus aculeatus* Linnaeus, 1758. Type by subsequent designation. Type designated by Jordan and Gilbert 1883:393. On Official List (Opinion 77, Direction 56). Misspellings include *Gasterosterus* and *Gastrosteus*. Name spelled *Gasterostius* by Nau 1787:108, and *Garterosteus* by Griffith and Smith 1834:189 in synonymy.
Etymology: *Gasterosteus*: Greek, gaster = stomach + Greek, osteon = bone.
295. *Gasterosteus aculeatus* Linnaeus, 1758**
Gasterosteus aculeatus Linnaeus [C.] 1758:295 [Systema Naturae, Ed. X v. 1].
EN: Threespined stickleback.
Type locality: Europe. Syntypes: Zool. Soc. Lond. 29 (left half-skin), 30-31 (2, right half-skins).
Distribution: Introduced to the Caspian Sea, Kavir and Hari River basins.

Genus *Pungitius* Coste, 1848 (1 species)
Pungitius Coste [P.] 1848:588. Masc. *Gasterosteus pungitius* Linnaeus, 1758. Type by subsequent designation or tautonymy. Appeared without named species; subsequent addition of species not researched; type above as given by Jordan 1923:174. Type may involve *P. laevis* (see footnote in Monod 1973:283). Fowler (MS) credits genus to d'Annone 1760:302 [Act. Helvet., v. 4; not investigated].
Etymology: *Pungitius*: Latin, pungitius = prickling.
296. *Pungitius platygaster* (Kessler, 1859)
Gasterosteus platygaster Kessler [K. F.] 1859:202 [Bulletin de la Société Impériale des Naturalistes de Moscou v. 32 (no. 3)].

EN: Ukranian stickleback (Fig. 41).
Type locality: Odessa and side arm of Dnieper River in Aleschki, Ukraine. Syntypes: BMNH 1897.7.5.2 [ex ZIN] (2), ZIN 2350-51 (6, 6+).
Distribution: Caspian Sea basin.

Order Spariformes (1 family, 1 genus 1 species) (see Nelson et al. 2016).
Family Sparidae (1 genus and 1 species)
Genus *Acanthopagrus* Peters, 1855 (1 species)
Acanthopagrus (subgenus of *Chrysophrys*) Peters [W. (C.H.)] 1855:242. Masc. *Chrysophrys vagus* Peters, 1852. Type by monotypy. Appeared as "64, *Chrysophrys* (*Acanthopagrus*) vagus Pet." in the Arch. Naturgesch., v. 21:242.
Etymology: *Acanthopagrus*: Greek, akantha = thorn + Greek, pagros, a kind of fish.
297. *Acanthopagrus arabicus* Iwatsuki, 2013:
Acanthopagrus arabicus Iwatsuki [Y.] 2013:83, fig. 4 (b) [Journal of Fish Biology v. 83 (no. 1)].
EN: Arabian yellowfin seabream.
Type locality: Western Coast of Qatar (market specimen). Holotype: MUFS 33840.
Distribution: Tigris, Hormuz and Persis.
Comment: *Acanthopagrus latus* (Houttuyn, 1782) is a synonyme.

Recommendations

Similar to threats observed in other countries, habitat modification, pollution, introduction of exotic aquatic species, droughts, human population growth and illegal fishing are main threats to fish diversity in Iran (see Esmaeili et al. 2014c). Hence, it is suggested that biology, ecology maps of conservation hot spots be drawn up based on a combination of characters (e.g., fish diversity, population density, ecological requirements, threats), and risk level of incurring losses to local–global biodiversity (e.g., number of critically endangered species). Moreover, the potential distribution of many species, especially key and/or endangered species regarding the zoogeographical point of view and conservation management strategies, can be modelled in future according to Mostafavi et al. (2014).

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