Threatened fishes of the world: the end of a series

David L. G. Noakes • Lynn D. Bouvier

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Our series of manuscripts on *Threatened Fishes of the World* came to an end after a prolonged and increasingly depressing and frustrating history. Prolonged because the series extended from 1995 to 2013, much longer than was anticipated. Increasingly depressing because it became clear to even the most skeptical reader that the status of a great many fishes is a matter of real concern. Frustrating because the accounts mostly presented the same picture for almost every species.

The species accounts range from the largest fish species, the whale shark (*Rhincodon typus*) to one of the smallest (*Tanichthys albonubes*), in freshwater, marine and brackish water systems (Table 1). The list includes some species that almost certainly are extinct, such as the Yangtze paddlefish (*Xiphurus gladius*), and some that are relatively abundant and widespread, such as the North American lake sturgeon (*Acipenser fulvescens*). Some species have global distributions, other are restricted to a single desert spring (*Cyprinodon diabolis*).

Several cautions are obvious for this species list. Since contributions were unsolicited, and judged on their

individual merits, it is not possible to analyze or interpret these reports as any objective measure of the number or distribution of threatened fish species. That was never the intention of this series. Other publications (Helfman 2007) are definitive efforts that were designed to address those important questions (Albins et al. 2013). Similarly, it is not possible to draw any conclusions from our series on Threatened Fishes as to the geographic, phylogenetic or systematic distribution of species. In fact, some papers must be regarded as doubtful reports of threatened species, since they probably represent only local color variants of broadly distributed species that cannot be considered as threatened (e.g., the aurora form of *Salvelinus fontinalis*, *Salmo trutta caspius*).

We still receive a few manuscript submission each year, although the journal website clearly states that we are no longer accepting manuscripts for the series. It proved to be increasingly difficult to judge the claimed threatened status for taxonomic units reported from areas with very limited information on species distributions and abundance. Helfman (2013) has done an admirable job to demonstrate the profound differences and difficulties that exist among different countries and jurisdictions where there is reasonable confidence for species identification and knowledge of population status. It is a simple exercise for any undergraduate ichthyology class in almost any place on earth to demonstrate that we have very limited information on the biology, ecology and population status of most local fish species (Scott and Crossman 1973).

I organized an invited session on Threatened Fishes for the annual meeting of the AAAS in Chicago in February 2011. Several papers from that session are

D. L. G. Noakes (✉)
Fisheries and Wildlife Department and Oregon Hatchery
Research Center, Oregon State University, Corvallis,
OR 97331-3803, USA
e-mail: David.Noakes@oregonstate.edu

L. D. Bouvier
Great Lakes Laboratory for Fisheries and Aquatic Sciences,
Fisheries and Oceans Canada, 867 Lakeshore Road,
Burlington, Ontario L7R 4A6, Canada

Table 1 Summary of 359 manuscripts published in the Threatened Fishes of the World series. Distributional information taken from Froese and Pauly (2013)

Species	Distribution	Environment
<i>Acanthobrama hadiyahensis</i>	Asia: Saudi Arabia	Freshwater
<i>Acanthobrama mirabilis</i>	Asia: Only known by the original description from Büyük Menderes and two more specimens from the Bafa Gölü in Southwestern Anatolia	Freshwater
<i>Acheilognathus elongatus</i>	Asia: Dian Chi Lake, Yunnan, China	Freshwater
<i>Achondrostoma occidentale</i>	Europe: Alcabrichel, Sizandro and Safarujo drainages in Estremadura, Portugal	Freshwater
<i>Acipenser brevirostrum</i>	North America: St. John River in Canada to St. Johns River in Florida, USA	Anadromous
<i>Acipenser dabryanus</i>	Asia: China in Yangtze River system and Korea	Freshwater
<i>Acipenser fulvescens</i>	North America: St. Lawrence-Great Lakes, Hudson Bay, and Mississippi River basins	Anadromous
<i>Acipenser gueldenstaedtii</i>	Eurasia: Black Sea, Sea of Azov and Caspian Sea, entering all main rivers that empty into them (Don, Kuban, Danube, Dnieper (rare), Dniester). Introduced throughout Europe	Anadromous
<i>Acipenser naccarii</i>	Europe: Adriatic Sea and its tributaries between Po (Italy) and Buna (Albania) drainages. Recorded from Corfu; present in lowermost part of Adriatic rivers from Soca to Drin. Records from Tyrrhenian slope of Italy, Spain and France are erroneous	Anadromous
<i>Acipenser nudiiventris</i>	Europe: Black, Azov, Caspian and Aral Sea, ascending some rivers (Danube up to Bratislava, Volga up to Kazan, Ural up to Chkalov), unknown or very rare in others. On the verge of extinction in its natural range. Extirpated in Aral basin; nearly extirpated in Black Sea basin; only occasional records from Danube and lower Volga; only a very small population remaining in Rivers Ural (Russia, Kazakhstan) and Rioni (Georgia); no natural spawning population in Iran; established in Lake Balkhash where it forms a large population	Anadromous
<i>Acipenser oxyrinchus</i>	Western Atlantic: Hamilton River, Labrador, Newfoundland, Canada to northeastern Florida, USA. Occurs occasionally in Bermuda and French Guiana. Northern Gulf of Mexico. In Europe: Baltic Sea. Landlocked populations in Lakes Ladoga and Onega (Russia), both now extirpated. Occasionally recorded from Great Britain and North Sea in Elbe drainage. Recent research revealed that this species existed in the Baltic Sea, but is now extirpated. Near threatened globally, but extirpated in Europe	Anadromous
<i>Acipenser persicus</i>	Eurasia: Caspian basin, most abundant in the southern part. Also distributed along the eastern Black Sea	Potamodromous
<i>Acipenser ruthenus</i>	Eurasia: rivers draining to Black, Azov and Caspian Seas; Siberia from Ob eastward to Yenisei drainages. Introduced throughout Europe, without formation of self-sustaining populations. Appendix III of the Bern Convention (protected fauna). International trade restricted	Freshwater, brackish
<i>Acipenser schrenckii</i>	Asia: Endemic to the Amur River system. Two morphs, brown and gray, represent the species in the Amur River basin	Marine; freshwater; brackish
<i>Acipenser sinensis</i>	Northwest Pacific: China and Japan (Sagami Sea)	Marine; freshwater; brackish
<i>Acipenser stellatus</i>	Eurasia: Caspian, Black, Azov and Aegean Seas, ascending rivers to spawn	Marine; freshwater; brackish
<i>Acipenser sturio</i>	Eastern Atlantic: the only remaining spawning population occurs in the Garonne drainage in France. Used to range from Norway	Marine; freshwater; brackish

Table 1 (continued)

Species	Distribution	Environment
	to the Bay of Biscay, including the North Sea, European coasts of Atlantic, northern Mediterranean eastward to Rhodos, western and southern Black Sea; occasionally recorded from the White Sea, Iceland, Morocco and Algeria. Anadromous, in most large rivers, but not recorded from Danube upriver of delta	
<i>Allotoca goslinei</i>	Central America: Ameca River basin, Jalisco, Mexico	Freshwater
<i>Alosa alabamae</i>	Western Central Atlantic: Gulf of Mexico	Marine; freshwater; brackish
<i>Amblyceps mangois</i>	Asia: Pakistan to Thailand	Freshwater
<i>Amblyopsis rosae</i>	North America: Springfield Plateau in southwestern Missouri, northeastern Oklahoma and northwestern Arkansas (Arkansas and upper White River drainages), USA	Potamodromous
<i>Amblyopsis spelaea</i>	North America: Indiana and Kentucky, USA	Freshwater
<i>Ameca splendens</i>	North America: Jalisco, Mexico	Freshwater
<i>Anabarilius alburnops</i>	Asia: restricted to southwest China	Freshwater
<i>Anabarilius grahami</i>	Asia: restricted to southwest China	Freshwater
<i>Anabarilius polylepis</i>	Asia: Yunnan, China	Freshwater
<i>Anaocypris hispanica</i>	Europe: Guadiana drainage in Spain and Portugal	Freshwater
<i>Aphanius baeticus</i>	Europe: Spain along Atlantic coast between Huelva and Gulf of Cadiz, known from 9 localities	Freshwater
<i>Aphanius iberus</i>	Europe: Spain along Mediterranean coast from 30 known localities (now extirpated in 14 of them). Historical records from near Perpignan, France now extirpated	Freshwater, brackish
<i>Aphyocypris lini</i>	Asia: southern China	Freshwater
<i>Aspiorhynchus laticeps</i>	Asia: Boston Lake and Yarkant River in Xinjiang Autonomous Region, China	Freshwater
<i>Astroblepus ubidiai</i>	South America: Mira River basin and Pacific coastal drainages of Ecuador	Freshwater
<i>Aulopyge huegelii</i>	Europe: Croatia (Cetina, Krka and Zrmanja drainages) and Bosnia-Herzegovina (Karstic streams in Glamocko, Livanjsko and Duvanjsko poljes, Lakes Busko and Blidinje)	Freshwater
<i>Austroglanis barnardi</i>	Africa: Clanwilliam Olifants River system, South Africa	Freshwater
<i>Austrolebias nigrofasciatus</i>	South America: inner drainages between laguna dos Patos and lagoa Mirim, southern Brazil	Freshwater
<i>Austrolebias univentripinnis</i>	South America: Mirim Lagoon basin in Brazil	Freshwater
<i>Bahaba taipingensis</i>	Northwest Pacific: south China only. From the Yangtze River southwards to Hongkong	Marine, brackish
<i>Barbus andrewi</i>	Africa: Berg and Breë systems, south-western Cape Province, South Africa	Freshwater
<i>Barbus calidus</i>	Africa: tributaries of the Clanwilliam Olifants, western Cape, South Africa	Freshwater
<i>Barbus caninus</i>	Europe: Adriatic basin, between Marecchia and Brenta drainages (Italy, Switzerland)	Freshwater
<i>Barbus capensis</i>	Africa: Clanwilliam Olifants River system, South Africa	Freshwater
<i>Barbus comiza</i>	Europe: Portugal and Spain in Tagus and Guadiana drainages. Extirpated in Guadalquivir drainage, Spain	Freshwater
<i>Barbus ethiopicus</i>	Africa: endemic to Ethiopia	Freshwater
<i>Barbus goktschaicus</i>	Asia: Lake Sevan and its tributaries	Freshwater
<i>Barbus haasi</i>	Europe: Mediterranean slope of Spain from Llobregat to Riudecanyes drainages	Freshwater
<i>Barbus serra</i>	Africa: Olifants River system, western Cape Province, South Africa	Freshwater
<i>Barbus treurensis</i>		Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Barbus trevelyani</i>	Africa: upper reaches of Blyde River, Limpopo system, eastern Transvaal, South Africa; previously known from the Treur and Sabie rivers Africa: Keiskamma and Buffalo systems in the Ciskei and eastern Cape Province, South Africa	Freshwater
<i>Batrochoglanis mathisoni</i>		
<i>Bolbometopon muricatum</i>	Indo-Pacific: Red Sea and East Africa to Samoa and the Line Islands, north to the Yaeyama and Wake islands, south to the Great Barrier Reef and New Caledonia	Marine
<i>Boleophthalmus pectinirostris</i>	Northwest Pacific: China, Korean Peninsula, Japan and Taiwan	Marine; freshwater; brackish
<i>Brachionichthys hirsutus</i>	Southwest Pacific: Endemic to Tasmania, Australia	Marine
<i>Brachymystax lenok</i>	Asia: Siberia, Korea and North China. A subspecies, <i>Brachymystax lenok tsinlingensis</i> is endemic to parts of the Taibaishan Mountain in the Qinling Mountains, particularly in the Heihe River at the eastern foot, the Shitouhe River at the northern foot and the Xushui and Taibaihe rivers at the southern foot of the mountain	Freshwater
<i>Brachymystax lenok tsinlingensis</i>	Asia: Siberia, Korea and North China. A subspecies, <i>Brachymystax lenok tsinlingensis</i> is endemic to parts of the Taibaishan Mountain in the Qinling Mountains, particularly in the Heihe River at the eastern foot, the Shitouhe River at the northern foot and the Xushui and Taibaihe rivers at the southern foot of the mountain	Freshwater
<i>Brycon nattereri</i>	South America: Upper Paraná and São Francisco River basins in Brazil	Freshwater
<i>Caecobarbus geertsii</i>	Africa: known only from some caves near Mbanza-Ngungu (lower Congo River), Democratic Republic of Congo	Freshwater
<i>Capoeta antalyensis</i>	Asia: Turkey	Freshwater
<i>Capoeta bergamae</i>	Asia: Turkey	Freshwater
<i>Capoeta pestai</i>	Asia: endemic to Turkey	Freshwater
<i>Carcharias taurus</i>	Circumtropical: Except perhaps the eastern Pacific. Indo-West Pacific: Red Sea and off South Africa to Japan, Korea and Australia. Present in Arafura Sea. Western Atlantic: Gulf of Maine to Argentina. Old record from Bermuda, south Brazil. Eastern Atlantic: Mediterranean to Cameroon. Northwest Atlantic: Canada	Marine
<i>Carcharodon carcharias</i>	Cosmopolitan, mostly amphitemperate. Western Atlantic: Newfoundland, Canada to Argentina; also north Gulf of Mexico, Bahamas, Cuba and Lesser Antilles	Marine
<i>Catostomus warnerensis</i>	North America: restricted to Warner Lake basin in southern Oregon, USA	Freshwater
<i>Cetorhinus maximus</i>	Cosmopolitan. Western Atlantic: Newfoundland, Canada to Florida, USA; southern Brazil to Argentina. Eastern Atlantic: Iceland, Norway and western Barents Sea to the North Sea, Mediterranean and Senegal; also western Cape Province, South Africa. Western Pacific: Japan to New Zealand. Eastern Pacific: Gulf of Alaska to Chile; possibly the Galapagos Islands. Highly migratory species, Annex I of the 1982 Convention on the Law of the Sea	Marine
<i>Chalcalburnus tarichi</i>	Asia: endemic to Lake Van Gölü, Turkey	Freshwater
<i>Chasmistes liorus</i>	North America: endemic to Utah Lake and lower Provo River in Utah, USA	Freshwater
<i>Cheilinus undulatus</i>	Indo-Pacific: Red Sea to South Africa and to the Tuamoto Islands, north to the Ryukyu Islands, south to New Caledonia	Marine
<i>Chiloglanis bifurcus</i>	Africa: Endemic to the Crocodile-Incomati system	Freshwater
<i>Chiloglanis emarginatus</i>		Freshwater

Table 1 (continued)

Species	Distribution	Environment
	Africa: two areas, tributaries of the Pongolo and Komato-Incomati rivers in South Africa and Swaziland, and the Pungwe and middle and lower Zambezi in Zimbabwe	
<i>Chirostoma aculeatum</i>	North America: endemic to the Lerma River basin	Freshwater
<i>Chirostoma riojai</i>	North America: endemic to the Lerma River basin	Freshwater
<i>Chlamydogobius micropterus</i>	Oceania: Queensland, Australia	Freshwater
<i>Chondrostoma arrigonis</i>	Europe: Júcar River basin, eastern Spain	Freshwater
<i>Chondrostoma beysehirense</i>	Asia: Beysehir Lake, Turkey	Freshwater
<i>Chondrostoma knerii</i>	Europe: Neretva drainage in Croatia and Bosnia Herzegovina	Freshwater
<i>Chondrostoma meandrense</i>	Asia: Büyük Menderes River basin, western Anatolia, Turkey	Freshwater
<i>Chondrostoma phoxinus</i>	Europe: Croatia (Cetina drainage) and Bosnia-Herzegovina (Glamocko, Livansjko and Duvanjsko poljes)	Freshwater
<i>Chondrostoma scodrense</i>	Europe: Lake Skadar basin (Montenegro and Albania)	Freshwater
<i>Chromis pelloura</i>	Western Indian Ocean: restricted to the northern Gulf of Aqaba, Red Sea. Possibly threatened	Marine
<i>Chuanchia labiosa</i>	Asia: upper reaches of the Yellow River, China	Freshwater
<i>Clarias batrachus</i>	Asia: Java, Indonesia. <i>Clarias</i> aff. <i>batrachus</i> from Indochina and <i>Clarias</i> aff	Freshwater, brackish
<i>Clarias cavernicola</i>	Africa: known only from the type locality, Aigumas Cave, North Otavi, Namibia. Major threat is depletion of ground water	Freshwater
<i>Clarias dussumieri dussumieri</i>	Asia: Goa, Karnataka, Kerala and Pondicherry in India	Freshwater
<i>Clinus spatulatus</i>	Southeast Atlantic: Bot River and Kleinmond estuary in the southwestern Cape Province of South Africa	Brackish
<i>Cobitis calderoni</i>	Europe: Iberian Peninsula, in Ebro and Douro drainages, and in some northeastern headwaters of Tagus	Freshwater
<i>Cobitis linea</i>	Asia: endemic to River Kor, Gulf Coast in Iran	Freshwater
<i>Cobitis narentana</i>	Europe: Neretva and Trebisnjica drainages in Croatia and Bosnia-Herzegovina	Freshwater
<i>Cobitis paludica</i>	Europe: Iberian Peninsula, except in Alagon system (Tagus drainage), northern Ebro and northern Douro drainages	Freshwater
<i>Cobitis puncticulata</i>	Europe and Asia: Lower Maritza drainage in Greece. Lakes Manyas and Ulubat drainages in Turkey	Freshwater
<i>Coreius septentrionalis</i>	Asia: Huanghe River, China	Freshwater
<i>Cranoglanis boudierius</i>	Asia: Kwangsi-Province in China	Freshwater
<i>Craterocephalus fluviatilis</i>	Oceania: Australia.	Freshwater
<i>Crenicichla jupiaensis</i>	South America: upper Paraná River basin, Brazil	Freshwater
<i>Crystallaria cincotta</i>	North America: Cumberland, Elk, Green and Muskingum river drainages of the Ohio River basin, USA	Freshwater
<i>Cyprinella caerulea</i>	North America: Coosa and Cahaba River systems from southeast Tennessee, northwest Georgia to Alabama, USA. Possibly extirpated from Cahaba River system	Freshwater
<i>Cyprinella monacha</i>	North America: Historically in much of Tennessee River drainage, from Virginia, North Carolina, Tennessee, Georgia to Alabama. Recently have been observed only in Little Tennessee River, North Carolina; Duck and Emory Rivers, Tennessee; and North Fork Holston River, Virginia and Tennessee, USA	Freshwater
<i>Cyprinella proserpina</i>	North America: Devils River, lower Pecos River and nearby tributaries of Rio Grande in Texas, USA. Also found in Rio San Carlo (Rio Grande drainage), Coahuila, Mexico	Freshwater
<i>Cyprinodon atrorus</i>	Central America: Río Salado and Cuatro Ciénegas systems in Mexico	Freshwater
<i>Cyprinodon bifasciatus</i>	Central America: Cuatro Ciénegas system, Mexico	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Cyprinodon bovinus</i>	North America: known only from Leon Creek (in Pecos River system), Pecos County in Texas, USA	Freshwater
<i>Cyprinodon diabolis</i>	North America: restricted to Devils Hole, Ash Meadows in Nye County, Nevada, USA	Freshwater
<i>Cyprinodon elegans</i>	North America: restricted to Toyah Creek and the effluents (including irrigation canals) of San Solomon, Phantom Cave and Griffin springs in Reeves County in Texas, USA	Freshwater
<i>Cyprinodon eximius</i>	North America: Rio Grande drainage in Texas in the USA, from Devils River to mouth of Rio Conchos. Also in Rio Conchos system and endorheic Rio Sauz basin in Mexico	Freshwater
<i>Cyprinodon laciniatus</i>	Central America: known only from the lakes on New Providence Island, Great Bahama Bank	Freshwater
<i>Cyprinodon pecosensis</i>	North America: Pecos River system in Texas and New Mexico, USA	Freshwater
<i>Cyprinodon radiosus</i>	North America: found only in Owens Valley in southern California, USA	Freshwater
<i>Cyprinodon tularosa</i>	North America: found only in Tularosa Valley in New Mexico, USA	Freshwater
<i>Cyprinus ilishaestomus</i>	Asia: Qiluhu Lake in Yunnan, China	Freshwater
<i>Cyprinus micristius</i>	Asia: Dian chi Lake, Yunnan, China	Freshwater
<i>Cyprinus pellegrini</i>	Asia: China	Freshwater
<i>Cyprinus pellegrini pellegrini</i>	Asia: China	Freshwater
<i>Cyprinus qionghaiensis</i>	Asia: China	Freshwater
<i>Deltistes luxatus</i>	North America: Lost River system (upper Klamath River basin) in Oregon and California, USA	Freshwater
<i>Delturus parahybæ</i>	South America: Paraiba do Sul River basin	Freshwater
<i>Dionda diaboli</i>	North America: Devils River and nearby San Felipe, Sycamore and Las Moras Creeks, Val Verde and Kinney counties in Texas, USA	Freshwater
<i>Diplomystes camposensis</i>	South America: Valdivia region, southern Chile	Freshwater
<i>Elassoma alabamæ</i>	North America: endemic to Moss Spring and (historically) adjacent springs in the middle Tennessee River drainage in Alabama, USA	Freshwater
<i>Elassoma boehlkei</i>	North America: Waccamaw and Santee River drainages in North Carolina and South Carolina, USA	Freshwater
<i>Elassoma okatie</i>	North America: Edisto and Savannah River drainages in South Carolina, USA	Freshwater
<i>Empetrichthys latos</i>	North America: restricted to three springs in Pahrump Valley, Nye County in Nevada, USA where it was the only native fish. Now exists only outside Pahrump Valley, where it was transplanted to prevent its extinction	Freshwater
<i>Epinephelus itajara</i>	Western Atlantic: Florida, USA to southern Brazil, including the Gulf of Mexico and the Caribbean. Eastern Atlantic: Senegal to Congo (reported as <i>Epinephelus esonue</i>); rare in Canary Islands	Marine, brackish
<i>Epinephelus marginatus</i>	East and Southwest Atlantic and Western Indian Ocean: East Atlantic: throughout the Mediterranean Sea, and from the southern Bay of Biscaye to southern tip of Africa. Stray specimens reported from the British Isles. Southwest Atlantic: southeastern Brazil, Uruguay, and Argentina. Western Indian Ocean: from tip of Africa to southern Mozambique and southern Madagascar. Reported from Oman	Marine
<i>Epinephelus striatus</i>	Western Atlantic: Bermuda, Florida, Bahamas, Yucatan Peninsula and throughout the Caribbean to southern Brazil. Not known from the Gulf of Mexico except at the Campeche Bank off the coast of Yucatan, at Tortugas and off Key West	Marine
<i>Eremichthys acro</i>	North America: found in the warm springs of Soldier Meadows, Lahontan basin, Humboldt County in Nevada, USA	Freshwater
<i>Etheostoma chermocki</i>	North America: Mobile Bay ecoregion, USA	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Etheostoma chienense</i>	North America: USA	Freshwater
<i>Etheostoma cinereum</i>	North America: found only in Cumberland and Tennessee River drainages in Virginia, Kentucky, Tennessee, Georgia and Alabama, USA	Freshwater
<i>Etheostoma fonticola</i>	North America: found only in San Marcos and Comal springs and their effluent rivers (Guadalupe River system) in southern central Texas, USA	Freshwater
<i>Etheostoma forbesi</i>	North America: Cumberland ecoregion, USA	Freshwater
<i>Etheostoma lugoi</i>	Central America: Rio Mesquites and its tributaries in Bolson de Cuatro Ciénegas, Mexico	Freshwater
<i>Etheostoma nianguae</i>	North America: found only in Osage River drainage (Missouri River basin) in southern central Missouri, USA	Freshwater
<i>Etheostoma percnurum</i>	North America: Cumberland and Tennessee ecoregions, USA	Freshwater
<i>Etheostoma perlongum</i>		
<i>Etheostoma segrex</i>	Central America: upper Rio Salado de los Nadadores in Bolson de Cuatro Ciénegas, Coahuila, Mexico	Freshwater
<i>Etheostoma sellare</i>	North America: tributaries of lower Susquehanna River, Harford County in Maryland, USA	Freshwater
<i>Eucyclogobius newberryi</i>	Eastern Pacific: Del Norte County in northern California, USA to Del Mar in southern California	Marine, brackish
<i>Fundulus lima</i>	Central America: Mexico	Freshwater
<i>Fundulus waccamensis</i>	North America: Lake Waccamaw in Columbus County in North Carolina, USA	Freshwater
<i>Galaxias argenteus</i>	Southwest Pacific: endemic to New Zealand	Amphidromous
<i>Galaxias auratus</i>	Oceania: known only from Central Plateau of Tasmania in Lake Sorell, Lake Crescent, a tributary of Lake Crescent at Interlaken, and Clyde River, which is the outflow of Lake Crescent	Freshwater
<i>Galaxias cobitinis</i>	Oceania: New Zealand	Freshwater
<i>Galaxias fontanus</i>	Oceania: known only from the upper Swan River of eastern Tasmania	Freshwater
<i>Galaxias fuscus</i>	Oceania: endemic to Australia	Freshwater
<i>Galaxias gracilis</i>	Oceania: endemic to New Zealand. Exterminated in part of its range by introduced trout	Freshwater
<i>Galaxias johnstoni</i>	Oceania: known only in Clarence Lagoon and tributaries and the upper reaches of the Clarence River, which is part of the Derwent River system of Tasmania, Australia	Freshwater
<i>Galaxias neocaledonicus</i>	Oceania: New Caledonia	Freshwater
<i>Galaxias pedderensis</i>	Oceania: known only from Lake Pedder and Lake Gordon in southern Tasmania, Australia	Freshwater
<i>Galaxiella munda</i>	Oceania: endemic to Australia. Known only from the southwestern part in coastal streams between Albany and Ellen Brook	Freshwater
<i>Galaxiella nigrostriata</i>	Eastern Indian Ocean: Western Australia	Freshwater
<i>Galaxiella pusilla</i>	Oceania: Australia; coastal streams of Victoria from the Mitchell River or a little to the east, west to Mount Gambier in South Australia and south to the northeastern corner of Tasmania, including Flinders Island in Bass Strait	Freshwater
<i>Gambusia amistadensis</i>	North America: formerly in Goodenough Spring (Rio Grande drainage) in Texas, USA	Freshwater
<i>Gambusia eurystoma</i>	Central America: Grijalva system, Mexico	Freshwater
<i>Gambusia gaigei</i>	North America: formerly found in Boquillas and Graham Ranch springs, Brewster County in Texas; now restricted to an artificial spring-fed pond in Big Bend National Park in Texas, USA	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Gambusia georgei</i>	North America: formerly in San Marcos Spring and River in Texas, USA	Freshwater
<i>Gambusia heterochir</i>	North America: Headwater springs of Clear Creek (in San Saba River system), Menard County in Texas, USA	Freshwater
<i>Gambusia nobilis</i>	North America: found only in Pecos River system in New Mexico and Texas, USA	Freshwater
<i>Gila boraxobius</i>	North America: Borax Lake (in Alvord basin), Harney County in Oregon, USA	Freshwater
<i>Gila elegans</i>	North America: Colorado River drainage in Wyoming, Colorado, Utah, New Mexico, Arizona and California in USA, and Mexico. Extant only in Green River in Utah and perhaps in some large impoundments of the Colorado River	Potamodromous
<i>Girardinichthys viviparus</i>	Central America: Mexico	Freshwater
<i>Glyphis</i>		
<i>Glyphis gangeticus</i>	Indo-West Pacific: Hooghly River, Ganges system, West Bengal, India, and likely from the vicinity of Karachi, Pakistan. Reported from Taiwan	Amphidromous
<i>Gobio benacensis</i>	Europe: Italy and Slovenia from Po to Soca and Reka drainages. Occurrence elsewhere in northern Adriatic basin is possible. Introduced to central and southern Italy	Freshwater
<i>Gobio uranoscopus</i>	Europe: Danube drainage	Freshwater
<i>Gobiocypris rarus</i>	Asia: Liusha river, tributary of the Dadu river at Jiuxiang, Hanyuan County, Sichuan Province, China	Freshwater
<i>Gymnocharacinus bergi</i>	South America: Valcheta stream in Rio Negro basin, Southern Argentina	Freshwater
<i>Gymnocypris przewalskii</i>	Asia: China	Freshwater
<i>Hemigrammocapoeta kemali</i>	Asia: Turkey	Freshwater
<i>Hemisalanx prognathus</i>	Northwest Pacific	Marine; freshwater; brackish
<i>Henochilus wheatlandii</i>	South America: Mucuri and Doce River basins in Brazil	Freshwater
<i>Herichthys labridens</i>	North America: Atlantic slope, in the Panuco River basin, Mexico	Freshwater
<i>Heteropneustes fossilis</i>	Asia: Pakistan and Sri Lanka to Myanmar	Freshwater, brackish
<i>Hippocampus capensis</i>	Southeast Atlantic: endemic to South Africa	Marine, brackish
<i>Hippocampus comes</i>	Western Central Pacific: Malaysia, Singapore, Viet Nam and Philippines	Marine
<i>Hippocampus erectus</i>	Western Atlantic: Nova Scotia, Canada and northern Gulf of Mexico to Panama and Venezuela. A southern form that may prove to be a separate species is known from Rio de Janeiro, Brazil and questionably from Suriname	Marine
<i>Hippocampus reid</i>	Western Atlantic: North Carolina in USA, Bermuda	Marine
<i>Hippocampus spinosissimus</i>	Indo-Pacific: Sri Lanka to Taiwan and Australia	Marine, brackish
<i>Holacanthus passer</i>	Eastern Pacific: Gulf of California to Peru, including the Galapagos Islands	Marine
<i>Horabagrus brachysoma</i>	Asia: Kerala, India	Freshwater, brackish
<i>Horabagrus nigricollaris</i>	Asia: Chalakudy River in Kerala, India	Freshwater
<i>Hubbsinna turneri</i>		
<i>Hucho bleekeri</i>	Asia: China	Freshwater
<i>Hucho hucho</i>	Europe: Danube drainage. Introduced into other European river basins when their numbers declined due to ecological changes in the Danube	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Huso huso</i>	Eurasia: Caspian, Black, Azov and Adriatic Sea basins	Anadromous
<i>Hypseleotris dayi</i>	Africa. Asia: Reported from Palau, the Ryukyu Islands, the Philippines Indonesia, New-Guinea, New Caledonia, the Vanuatu, Fiji and Samoa, up to La Réunion, Comoros, and Madagascar	Marine; freshwater; brackish;
<i>Iberochondrostoma lusitanicum</i>	Europe: Portugal in Sado, Lizandro, Samarra, Colares and Ossos drainages, south bank tributaries of Tagus	Freshwater
<i>Iberocypris palaciosi</i>	Europe: middle Guadalquivir drainage near Andújar in Spain	Freshwater
<i>Iotichthys phlegethontis</i>	North America: Bonneville basin in northern Utah, USA	Freshwater
<i>Iranocypris typhlops</i>	Asia: endemic to the River Tigris, Iran	Freshwater
<i>Labeo seeberi</i>	Africa: within the drainage basin of the Olifants River, Limpopo system, Transvaal, South Africa	Potamodromous
<i>Ladigesocypris ghigii</i>	Europe: Rhodos Island in Greece	Freshwater
<i>Latimeria chalumnae</i>	Indian Ocean: well known population off the islands of Grand Comoro and Anjouan in the Comoros. Other populations in South Africa, Madagascar, and Mozambique. Likely to occur as strays at islands like Astove and Cosmoledo	Marine
<i>Lebias ginaonis</i>	Asia: Iran	Freshwater
<i>Lefua echigonia</i>	Asia: Japan	Freshwater
<i>Lentipes concolor</i>	Oceania: known only from Hawaii	Marine; freshwater; brackish
<i>Lepidogalaxias salamandroides</i>	Oceania: endemic to Western Australia in seasonal pools between the Blackwood and Kent rivers	Freshwater
<i>Lepidomeda vittata</i>	North America: upper Little Colorado River system in eastern Arizona, USA	Freshwater
<i>Leptobotia elongata</i>	Asia: middle and upper reaches of the Yangtze River, China	Freshwater
<i>Leuciscus carolitertii</i>	Europe: Iberian Peninsula in Douro, Mondego, Umia, Limia, Tagus, Miño and Lerez drainages	Freshwater
<i>Leuciscus keadicus</i>	Europe: endemic to the Evrotas River in Peloponnesus, Greece	Freshwater
<i>Leuciscus lucumonis</i>	Europe: Serchio, Ombrone, Arno and Tevere drainages (Tyrrhenian slope) in Italy	Freshwater
<i>Liobagrus kingi</i>	Asia: Yunnan, China	Freshwater
<i>Luciobarbus subquincunciatus</i>		
<i>Luciobrama macrocephalus</i>	Asia: China and Vietnam	Freshwater, brackish
<i>Maccullochella ikei</i>	Oceania: Australia	Freshwater
<i>Maccullochella macquariensis</i>	Oceania: Murray-Darling basin, New South Wales, Australia-Mitta Mitta River, upper Murray River (Tintaldra, Mulwala area), Murrumbidgee River, Cataract Dam (Nepean River), also in the Macquarie River. Stocked population in Seven Creeks River and Glenbawm Dam (Hunter River); also in Lake Sambell	Freshwater
<i>Macquaria australasica</i>	Oceania: Once widely distributed in the Murray-Darling basin and southeastern coastal drainages. Now reduced to cooler upper reaches of Murray-Darling basin, New South Wales, Australia. Introduced in the Wannon, Barwon, Yarra Rivers (Victoria) and the Nepean and Shoalhaven Rivers (New South Wales), Australia	Potamodromous
<i>Macropleurodon bicolor</i>	Africa: Lake Victoria	Freshwater
<i>Macropodus hongkongensis</i>	Asia: Hong Kong	Freshwater
<i>Macrura reevesi</i>	Northwest Pacific: China and possibly southward into South China Sea, but records uncertain. Eastern Indian Ocean: two specimens collected from Phuket Island, Andaman Sea	Marine; freshwater; brackish
<i>Meda fulgida</i>	North America: Gila River system in Arizona and New Mexico, USA	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Menidia extensa</i>	North America: occurs only in the Lake Waccamaw in North Carolina, USA	Freshwater
<i>Menidia riojai</i>		
<i>Merluccius hubbsi</i>	Southwest Atlantic: off southern Brazil to Argentina and the Falkland Islands	Marine
<i>Micropterus treculii</i>	North America: found only on Edwards Plateau in Brazos, Colorado, Guadalupe, San Antonio and upper Nueces	Freshwater
<i>Milyeringa veritas</i>	Australia: subterranean waters below the narrow coastal plain between North West Cape and Yardie Creek; Five Mile, Homestead, Kudmurra, Milyering (Mangrove), New Yardie, Pilgramuna and Tantabiddi Wells.	Freshwater
<i>Misgurnus fossilis</i>	Europe and Asia: In Europe, north of the Alps, from Meuse eastward to Neva drainages and Lake Ladoga; northern Black Sea basin from Danube eastward to Kuban, absent on the southern section; Caspian basin in Volga and Ural drainages. Not native to Great Britain, Scandinavia, Apennine and Iberian peninsulas, Crimea, and Adriatic, Aegean and White Sea basins. Locally introduced in Rhône drainage (France) and perhaps elsewhere	Freshwater
<i>Moapa coriacea</i>	North America: endemic to headwaters of Moapa River, Clark County in southeastern Nevada, USA. Subject to major population fluctuations and varies from rare to common within extremely restricted range	Freshwater
<i>Moxostoma congestum</i>	North America: USA; occurrence in Mexico is uncertain	Freshwater
<i>Mycteroperca bonaci</i>	Western Atlantic: Bermuda and Massachusetts, USA to southern Brazil, including the southern Gulf of Mexico and the Caribbean. Adults are unknown from the northeastern coast of the USA	Marine
<i>Mycteroperca microlepis</i>	Western Atlantic: North Carolina, USA (with juveniles occurring as far north as Massachusetts) to the Yucatan Peninsula, Mexico. Rare in Bermuda	Marine, brackish
<i>Myxocyprinus asiaticus</i>	Asia: China	Freshwater
<i>Nannatherina balstoni</i>	Oceania: coastal drainages of southwest Australia	Freshwater
<i>Nannoperca oxleyana</i>	Oceania: endemic in the coastal drainages of northeast and southeast Australia, from Noosa River to Richmond River	Freshwater
<i>Neoceratodus forsteri</i>	Oceania: southern Queensland, Australia in Burnett and Mary River systems	Freshwater
<i>Neochanna burrowsius</i>	Oceania: endemic to New Zealand	Freshwater
<i>Neosalanx reganius</i>	Asia: Ariake Sea, Kyushu Island, Japan	Marine; freshwater; brackish
<i>Notropis albizonatus</i>	North America: Known only from one small stream each in the Cumberland River drainage (Little South Fork, Kentucky) and Tennessee River drainage (Paint Rock River, Alabama), USA	Freshwater
<i>Notropis bifrenatus</i>	North America: St. Lawrence-Lake Ontario drainage in Quebec and Ontario in Canada, and New York in the USA; Atlantic Slope drainages from southern Maine, USA to Roanoke River system in southern Virginia, USA; isolated population in lower Neuse River drainage in eastern North Carolina, USA	Freshwater
<i>Notropis boucardi</i>	North America: Mexico	Freshwater
<i>Notropis girardi</i>	North America: Arkansas River drainages from western Arkansas to western Kansas, western Oklahoma, Texas and northeastern New Mexico, USA.	Freshwater
<i>Notropis sabinae</i>	North America: St. Francis and lower White (including lower Black) River drainages in Missouri and Arkansas, USA; Little River system (lower Red River drainage), Louisiana, USA; and Gulf Coast drainages from Calcasieu River in Louisiana to San Jacinto River in Texas, USA	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Notropis simus pecosensis</i>	North America: Found in the upper Rio Grande (above El Paso, Texas), Texas and New Mexico and in the Pecos River, New Mexico, USA	Freshwater
<i>Notropis topeka</i>	North America: Mississippi River basin in the USA from southern Minnesota and southeastern South Dakota south to central Missouri and southern Kansas (in Arkansas River drainage)	Freshwater
<i>Noturus munitus</i>	North America: Gulf Slope drainages in the USA: disjunct populations in Conasauga River, Tennessee; Etowah River, Georgia; Cahaba River, central Alabama; Tombigbee River in western Alabama and eastern Mississippi; and Pearl River in southern Mississippi and eastern Louisiana	Freshwater
<i>Noturus placidus</i>	North America: Arkansas River drainage in USA: Spring River in southwestern Missouri and southeastern Kansas; Cottonwood and Neosho rivers in eastern Kansas and northeastern Oklahoma; lower few miles of Illinois River in eastern central Oklahoma	Freshwater
<i>Odontobutis yaluensis</i>	Asia: China	Freshwater
<i>Ogilbia pearsei</i>	Central America: Yucatan Peninsula, Mexico	Freshwater
<i>Oligosarcus schindleri</i>	South America: Chapare River basin and lagoons near Cochabamba, Bolivia	Freshwater
<i>Oncorhynchus iwame</i>	Asia: Japan	Freshwater
<i>Oncorhynchus masou formosanus</i>	Asia: endemic to Taiwan	Freshwater
<i>Oncorhynchus mykiss nelsoni</i>	Native to Pacific Slope from Kuskokwim River, Alaska to (at least) Rio Santa Domingo, Baja California, Mexico; upper Mackenzie River drainage (Arctic basin), Alberta and British Columbia in Canada; endorheic basins of southern Oregon, USA. Widely introduced in cold waters elsewhere in North America and rest of the world	Anadromous
<i>Onychostoma alticorpus</i>	Asia: Taiwan and China]	Freshwater
<i>Ophiogobius jenynsi</i>	Southeast Pacific: Chile	Marine
<i>Ophisternon candidum</i>	Oceania: Western Australia	Potamodromous
<i>Ophisternon infernale</i>	Central America: Yucatan, Mexico	Freshwater
<i>Opsaridium microlepis</i>	Africa: Endemic to Lake Malawi.	Potamodromous
<i>Oregonichthys crameri</i>	North America: Willamette and Umpqua River drainages in Oregon, USA. Common in Umpqua but localized and rare in Willamette because of habitat alteration	Freshwater
<i>Orestias ascotanensis</i>	South America: Ascotán Lake, Chile	Freshwater
<i>Ossubtus xinguense</i>	South America: Xingu River basin in Brazil	Freshwater
<i>Oxygymnocypris stewartii</i>	Asia: Brahmaputra River in Tibet	Freshwater
<i>Pangasianodon gigas</i>	Asia: endemic to the Mekong basin where it has become rare due to overexploitation	Potamodromous
<i>Pangasius pangasius</i>	Asia: large rivers of Indian subcontinent and Myanmar	Freshwater, brackish
<i>Pangasius sanitwongsei</i>	Asia: Chao Phraya and Mekong basins	Freshwater
<i>Papillogobius punctatus</i>	Eastern Indian Ocean: Known only from the Swan Estuary in Western Australia	Marine, brackish
<i>Parachondrostoma turiense</i>	Europe: river basins of Turia and Mijares in eastern Spain	Freshwater
<i>Paracobitis smithi</i>	Asia: Baq-e-Loveh pool, Ab-i-Serum Valley near Tang-e-haft railway station, Zagros mountains, Ira	Freshwater
<i>Pareiorhaphis garbe</i>	South America: Brazil in the rivers of the southern drainage of the serra dos Orgaos, Macaé and Macacú rivers	Freshwater
<i>Percilia irwini</i>	South America: Chile in streams and rivers of Malleco and Bio-Bio River basins	Freshwater
<i>Percina aurolineata</i>		Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Percina bimaculata</i>	North America: Coosa and Cahaba River systems (in Mobile Bay drainage) in Georgia and Alabama, USA	Freshwater
<i>Percina pantherina</i>	North America: Chesapeake Bay drainages, USA	Freshwater
<i>Percina rex</i>	North America: Little River system (in Red River drainage) of southwestern Arkansas and southeastern Oklahoma in the USA	Freshwater
<i>Phallotorynus jucundus</i>	North America: upper Roanoke, upper Dan and upper Chowan River systems (in Roanoke River drainage) in Virginia, USA	Freshwater
<i>Phoxinellus epiroticus</i>	South America: Grande River drainage	Freshwater
<i>Phoxinus cumberlandensis</i>	Europe: Lake Pamvotis in Greece	Freshwater
<i>Pimelodella kronei</i>	North America: upper Cumberland River drainage (above Big South Fork) in Kentucky and Tennessee, USA	Freshwater
<i>Plagopterus argentissimus</i>	South America: caves in the Ribeira do Iguape River basin in Sao Paulo, Brazil	Freshwater
<i>Plesiomyzon baotingensis</i>	North America: Virgin and Gila River systems (both lower Colorado River drainage) in Utah, Nevada and Arizona, USA. Now believed extirpated in Gila River system	Freshwater
<i>Poblana alchichica</i>	Asia: endemic to the drainages in Hainan Island, China	Freshwater, brackish
<i>Poecilia latipunctata</i>	Central America: Mexico	Freshwater
<i>Poecilia sulphuraria</i>	North and Central America: Rio Panuco basin in Tamaulipas, Mexico	Freshwater
<i>Polysteganus undulosus</i>	Central America: Grijalva system in Mexico	Freshwater
<i>Pomatoschistus canestrinii</i>	Western Indian Ocean: southern Mozambique to Durban, South Africa	Marine
<i>Pristis microdon</i>	Europe: Adriatic coasts, from Po delta (Italy) to Neretva (Croatia)	Freshwater
<i>Pristis pectinata</i>	Indo-West Pacific: East Africa to New Guinea, north to the Philippines and Viet Nam, south to Australia. Also Atlantic and eastern Pacific if <i>Pristis perotteti</i> and <i>Pristis zephyreus</i> are synonymized with this species. The original description of <i>Pristis microdon</i> did not give a locality, but most authors have used the name <i>Pristis microdon</i> for the Indo-West Pacific sawfishes of this species group as contrasted from the Atlantic <i>Pristis perotteti</i> and the eastern Pacific <i>Pristis zephyreus</i> .	Amphidromous
<i>Probarbus jullieni</i>	Circumglobal. Western Atlantic: North Carolina (USA), Bermuda and northern Gulf of Mexico to Argentina. Caribbean, rare in Bermuda. Eastern Atlantic: Gibraltar to Namibia; possibly in the Mediterranean Sea. Indo-West Pacific: Red Sea and East Africa to the Philippines. Possibly occurring in the eastern Pacific	Amphidromous
<i>Procypris rabaud</i>	Asia: Mekong, Chao Phraya and Meklong basins of Indo-China and Thailand, and the Pahang and Perak basins of Malaysia	Freshwater, brackish
<i>Profundulus hildebrandi</i>	Asia: middle and upper reaches of Yangtze River, China	Freshwater
<i>Protogobius attiti</i>	Central America: San Cristóbal de las Casas valley in Chiapas, Mexico	Freshwater
<i>Protomyzon pachychilus</i>	Oceania: New Caledonia	Freshwater
<i>Prototroctes oxyrhynchus</i>	Asia: China	Freshwater
<i>Psephurus gladius</i>	Oceania: endemic to New Zealand	Marine; freshwater; brackish
<i>Pseudobagrus medianalis</i>	Asia: China, endemic to the Yangtze River and its tributaries	Freshwater
<i>Pseudobarbus burgi</i>	Asia: Dian Chi Lake, Yunnan, China	Freshwater
<i>Pseudobarbus phlegethon</i>	Africa: Occurs in the Berg River system and Verlorenvlei Rivers, southwest Cape. Probably extinct in the Eerste River, Cape Province, South Africa	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Pseudobarbus quathlambae</i>	Africa: tributaries of the Clanwilliam Olifants River, Cape Province, South Africa Africa: Headwater streams of the Orange River in Lesotho. Type locality is the Umkomazana River in Natal, but not recorded there since the 1930s. Protected within the Sehlabathebe National Park	Freshwater
<i>Pseudomugil mellis</i>	Oceania: southern Queensland around the vicinity of Brisbane, Australia northward along the coast, 300 km to Bundaberg area	Freshwater, brackish
<i>Pseudophoxinus anatolicus</i>	Asia: Turkey	Freshwater, brackish
<i>Pseudophoxinus crassus</i>	Asia: Tuz Gölü tributaries and the region of Aksaray and Nigde, central Anatolia, Turkey	Freshwater
<i>Pseudophoxinus egridiri</i>	Asia: endemic to Turkey	Freshwater
<i>Pseudoplatystoma corruscans</i>	South America: São Francisco and Paraná River basins	Freshwater
<i>Pseudorasbora</i>		Freshwater
<i>Pseudoscaphirhynchus spp.</i>		
<i>Psilorhynchus homaloptera</i>	Asia: India, Myanmar and Nepal. Also reported from Tibet	Freshwater
<i>Pterapogon kauderni</i>	Western Central Pacific: Apparently restricted to Banggai Islands, Indonesia. Threatened by extinction due to collection for the aquarium trade	Marine
<i>Ptychobarbus chungtienensis</i>	Asia: Zhongdian, Yunnan, China	Freshwater
<i>Ptychocheilus lucius</i>	North America: Colorado River drainage in Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada and California, USA and Mexico	Potamodromous
<i>Pungitius hellenicus</i>	Europe: lower Sperchios drainage in Greece	Freshwater
<i>Pungu maclaren</i>	Africa: endemic to Lake Barombi Mbo, west Cameroon	Freshwater
<i>Puntius denisonii</i>	Asia: endemic to India	Freshwater
<i>Puntius lindo</i>	Asia: endemic to Lake Lanao, Mindanao, Philippines	Freshwater
<i>Puntius sarana</i>	Asia: Afghanistan, Pakistan, India, Nepal, Bangladesh, Bhutan	Freshwater, brackish
<i>Puntius tumba</i>	Asia: generally distributed over the Lanao Plateau, Mindanao, Philippines	Freshwater
<i>Rhincodon typus</i>	Circumglobal in tropical and warm temperate seas. Western Atlantic: New York, USA through the Caribbean to central Brazil. Eastern Atlantic: Senegal to Gulf of Guinea; St. Paul's Rocks. Indian Ocean: throughout the region, including the Red Sea and the Persian Gulf. Western Pacific: Japan to Australia and Hawaii. Eastern Pacific: California, USA to Chile	Marine
<i>Rhyacichthys guilberti</i>	Oceania	Amphidromous
<i>Romanichthys valsanicola</i>	Europe: Danube drainage in Romania; previously known from upper River Arges and its tributaries Vâlsan and Râul Doamnei. Today, restricted to 1 km of upper River Vâlsan upstream of Bradet village, but adjacent basins still insufficiently surveyed.	Freshwater
<i>Salminus affinis</i>	South America: Magdalena River basin and Santiago River basin in Ecuador	Freshwater
<i>Salmo dentex</i>	Europe: Croatia, Bosnia-Herzegovina, Montenegro, Albania, Greece, Kosovo, Macedonia	Freshwater
<i>Salmo platycephalus</i>	Asia: Turkey	Freshwater
<i>Salmo trutta caspius</i>	Europe: Restricted to southern Caspian basin	Marine; freshwater; brackish
<i>Salvelinus confluentus</i>	Coastal and mountain streams of Arctic, Pacific, and Missouri River drainages from extreme southern Yukon in Canada to headwaters	Marine; freshwater; brackish

Table 1 (continued)

Species	Distribution	Environment
<i>Salvelinus elgyticus</i>	of Columbia River drainage in northern Nevada, USA, and McCloud River drainage in northern California, USA Asia: known only from the ancient Lake El'gygytgyn located in the headwaters of the Enmyvaam River, Anadyr River catchment in central Chukotka, Russia	Freshwater
<i>Salvelinus fontinalis</i>	North America: most of eastern Canada from Newfoundland to western side of Hudson Bay; south in Atlantic, Great Lakes, and Mississippi River basins to Minnesota and northern Georgia in USA. South America: Argentina. Widely introduced in temperate regions of other continents	Marine; freshwater; brackish
<i>Salvelinus leucomaenis japonicus</i>		
<i>Salvethymus svetovidov</i>	Asia: Russia	Freshwater
<i>Sandelia bainsii</i>	Africa: Kowie, Great Fish, Buffalo, Keiskamma and Nahoon River systems, southeast Cape, South Africa	Freshwater
<i>Scardinius scardafra</i>	Europe: Tyrrhenian basin from Magra to Garigliano drainages in Italy. Introduced in Lake Scanno (Pescara drainage, Italy), which is the only locality where it is known to survive. Also survived some time in Lake Massaciuccoli (Serchio drainage [north of Pisa], Italy) but the present status of this population is still unknown	Freshwater
<i>Scaturiginichthys vermeilipinnis</i>	Oceania: Australia	Freshwater
<i>Schizothorax</i>		
<i>Schizothorax longibarbus</i>	Asia: China	Freshwater
<i>Schizothorax taliensis</i>	Asia: Erhai Lake in Yunnan, China	Freshwater
<i>Seminemacheilus tongiorgii</i>	Asia: Kul river basin, Iran	Freshwater
<i>Sicyopterus sarasini</i>	Oceania: New Caledonia	Freshwater
<i>Silhouettea sibayi</i>	Africa: Lake St. Lucia, Lake Sibayi and Kosi Bay, South Africa	Freshwater
<i>Silurus aristotelis</i>	Europe: Acheloos drainage in Greece. Introduced in Lakes Pamvotis and Volvi	Freshwater
<i>Silurus mento</i>	Asia: endemic to Dian Chi Lake, Yunnan, China	Freshwater
<i>Silvinichthys bortayro</i>	South America: artificial wells in western Argentina	Freshwater
<i>Sinocyclocheilus anophthalmus</i>	Asia: Yunnan, China	Freshwater
<i>Sinocyclocheilus grahami</i>	Asia: China	Freshwater, brackish
<i>Siphateles bicolor</i>		Freshwater
<i>Speoplatyrhinus poulsoni</i>	North America: known only from Key Cave in Alabama, USA	Freshwater
<i>Squalidus banarescui</i>	Asia: Wu (Ta-du) River basin in central Taiwan	Freshwater
<i>Squalidus ijimae</i>	Asia: endemic to Taiwan	Freshwater
<i>Squalius aradensis</i>	Europe: Arade, Algibre and Bordeira basins in the extreme south of Portugal	Freshwater
<i>Squalius torgalensis</i>	Europe: Torgal drainage in southern Portugal	Freshwater
<i>Steindachneridion parahybae</i>	South America: Paraíba do Sul and Jequitinhonha River basins in Brazil	Freshwater
<i>Stygichthys typhlops</i>	South America: upper São Francisco River basin in Minas Gerais, Brazil	Freshwater
<i>Syngnathus watermeyerii</i>	Africa: Known only from areas of tidal influence within the Kariega, Kasouga and Bushmans Rivers, South Africa	Brackish
<i>Taenioides jackson</i>	Africa: known only from South Africa	Freshwater, brackish
<i>Tanichthys albonubes</i>	Asia: China and Viet Nam	Freshwater
<i>Tometes lebaili</i>	South America: Mana River and Maroni basins in French Guiana, and Commewine River in Suriname	Freshwater

Table 1 (continued)

Species	Distribution	Environment
<i>Tor putitora</i>	Asia: Afghanistan, Pakistan, India, Nepal, Bangladesh, Bhutan and Myanmar	Freshwater
<i>Tor tor</i>	Asia: Pakistan, India, Bangladesh, Myanmar, Nepal and Bhutan	Freshwater
<i>Trachidermus fasciatus</i>	Asia: Japan, China and Korea	Marine; freshwater; brackish
<i>Trichomycterus chungaraensis</i>	South America: streams of Chungará Lake in Chile	Freshwater
<i>Triplophysa siluroides</i>	Asia: Qinghai Province, China	Freshwater
<i>Typhlichthys subterraneus</i>	North America: portions of Alabama, Georgia, Tennessee, Kentucky, Indiana, Missouri and Arkansas, USA	Freshwater
<i>Umbra krameri</i>	Europe: Danube drainage from Vienna to delta; lower reaches of Dniestr drainage	Freshwater
<i>Valencia hispanica</i>	Europe: Spain along the Mediterranean coast between Tortosa and Cape San Antonio	Freshwater
<i>Valencia letourneuxi</i>	Europe: Albania and western Greece, from Lake Butrint to Alfios drainages, and Corfu and Lefkas islands where it has been extirpated	Freshwater
<i>Wallago attu</i>	Asia: Pakistan to Viet Nam and Indonesia. Reported from Afghanistan. Lower risk - near threatened status in Western Ghats, India	Freshwater, brackish
<i>Xenocypris yunnanensis</i>	Asia: Dianci lake, Yunnan, China	Freshwater
<i>Xyrauchen texanus</i>	North America: Formerly throughout medium to large rivers of Colorado River basin from Wyoming and Colorado in USA to Baja California in Mexico.	Freshwater
<i>Yunnanilus discoloris</i>	Asia: China	Freshwater
<i>Zacco chengtui</i>	Asia: Peng-hsien, near Chengtu, Szechwan Province, China	Freshwater
<i>Zoogoneticus tequila</i>	North America: Mexico	Freshwater

central to this special issue (Helfman 2013; Katz et al. 2013; Nielsen et al. 2013). There is no shortage of regional, national and international attention and publications on the subject of threatened fishes. What is lacking is a clear focus to recognize the basic causes of threats to fishes, or to deal with those concerns. One thing that is very clear, and very important to note from the short articles in the series on Threatened Fishes, is the description of the threats to the species. Perhaps these detailed accounts can serve as the catalysts to support local efforts directed towards species that would otherwise go unnoticed. Clearly everyone concerned about the present status and potential fate of threatened fishes will share our mixed feelings of satisfaction from bringing even this limited number of species accounts to the attention of a broader audience together with the feeling of increasing concern about such obvious predictions for the future of so many fish species.

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