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A review of the literature on the ichthyofauna of the rivers draining the Yangambi Biosphere Reserve (middle Congo River), Democratic Republic of the Congo

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Abstract

A first annotated checklist documenting the ichthyofauna of the rivers draining the Yangambi Biosphere Reserve (YBR), middle Congo Basin, was published in 1963, just over six decades ago. A comprehensive list of fish species reported from the rivers draining the YBR and their IUCN Red List status was compiled, referring to surveys dating from 1950 to 2025. A total of 224 native fish species and three introduced ones, belonging to 92 genera and 30 families, have thus been documented. The most diversified families are: the Mormyridae, with 43 species (19.2%); the Distichodontidae, with 23 species (10.3%); the Alestidae, with 20 species (8.9%); the Cyprinidae, with 19 species (8.5%); the Mochokidae, with 16 species (7.1%), and the Clariidae, with 13 species (5.8%). Among these, 195 species (29.6%) were identified from the main channel of the upper stretch of the middle Congo River, 135 species (20.5%) from the Lobilo River, the largest right bank affluent of the reserve, and 122 species (18.5%) from the Lilanda River, forming partially the western border of the reserve. The IUCN Red List assessments of the reported species identified 208 species (92.9%) as Least Concern (LC); nine species (4.0%) as Not Evaluated (NE), and seven species (3.1%) as Data Deficient (DD). Nevertheless, several anthropogenic threats to the fish inhabiting the reserve have also been documented in the past. These include the degradation of aquatic habitats, artisanal mining, overfishing, and the use of unsustainable fishing practices. We hope that the results of this study will facilitate additional research in the region and contribute to the protection, conservation, and sustainable management of fishes in the rivers draining the YBR, in particular, and more broadly, those of Congo Basin.

Key words: conservation, fish, IUCN Red List, overfishing, protected areas, sustainable management

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Introduction

Knowledge of species diversity is a basic element of biodiversity protection/conservation (Wei *et al*. 2014). Therefore, an accurate assessment of species diversity has long been a concern in ecology and conservation biology (Chen *et al*. 2021; Higgins *et al*. 2021). Furthermore, accurate fish classification requires a solid understanding of taxonomy (Kottelat & Freyhof 2007), a field that has made significant progress in recent years, particularly in Congolese regions of high ichthyological diversity such as the upper Congo (Katemo Manda *et al*. 2021; Abwe *et al.* 2023); the middle Congo (Mambo *et al*. 2020; Mbimbi *et al.* 2021; Stiassny *et al*. 2021; Liyandja & Stiassny 2023); and the lower Congo (Lowenstein *et al*. 2011; Alter *et al*. 2017). Nevertheless, up-to-date information on the ichthyofauna of protected areas within the Congo Basin remain scarce, except for a few studies (Abwe *et al.* 2023; Bigirimana *et al*. 2024; Katemo Manda *et al.* 2023; Kisekelwa *et al.* 2020; Monsembula & Stiassny 2013). Therefore, new initiatives are currently underway to further improve our knowledge of the ichthyological diversity in these areas of the Congo Basin, particularly the Yangambi Biosphere Reserve (YBR). Despite these efforts, our current knowledge of the ichthyofauna of the YBR remains incomplete, which constitutes one of the major obstacles to its more sustainable management.

Globally, biodiversity is in decline (IPBES 2019) and freshwater ecosystems, which are very rich in fish biodiversity, are under considerable pressure (Dudgeon 2019). The fish fauna of the YBR rivers is not immune to these threats (Mambo *et al*. 2020). Fish populations and species in this area face multiple anthropogenic threats, including increased deforestation, artisanal mining, construction of impoundments, habitat degradation, and overfishing. The use of destructive fishing techniques, such as insecticide treated mosquito nets and fishing with plant-based ichthyotoxins, are particularly problematic (Toirambe 2015; Mambo *et al*. 2020). These threats are especially serious because of the human population growth in the region (Kyale *et al*. 2019; Levrel *et al*. 2022). To better understand the ichthyofauna of the YBR we need to identify all the species reported from the reserve, inventory their conservation status according to the International Union for Conservation of Nature (IUCN) Red List, determine the anthropogenic threats to these species, and examine potential conservation and/or sustainable management strategies. The objective of this study is to provide a comprehensive and up-to-date list of the known freshwater fish species present in the rivers draining the YBR, based on data available in the scientific literature and recent reports regarding the area.

Materials and methods

Study area

The Yangambi Biosphere Reserve (YBR) is located on the right bank of the upper stretch of the Middle Congo River (MCR), approximately 100 km downstream from the city of Kisangani, in the present-day Tshopo Province, Democratic Republic of the Congo (DRC) (Kyale *et al*. 2019) (Figure 1). At its creation in 1939, YBR was known as the "Réserve Floristique de Yangambi". Management of the reserve was, originally, assigned to the "Institut National pour l'Étude Agronomique du Congo Belge" (INEAC), presently known as the "Institut National d'Étude et Recherche Agronomiques" (INERA) since 1960 (Baert *et al*. 2013). On January 17, 1977, the International Coordinating Council (ICC), which oversees UNESCO's Man and the Biosphere (MAB) programme, recognised the Yangambi Forest Reserve (YFR) as an integral part of the international network of biosphere reserves. As a results, since May 1979, the YFR has also been managed by the MAB/DRC National Committee. Furthermore, the YFR became the YBR, the name by which it is currently known. At present, it covers a surface area of approximately 225,000 hectares (Toirambe 2015).

Geographically, the reserve extends between latitudes 00°43′ and 01°08′ north and longitudes 24°18′ and 25°08′ east and is situated at an elevation ranging from 400 to 500 meters above sea level (asl) (Kyale *et al*. 2019; Mambo *et al*. 2020). The reserve is situated in the equatorial zone and undergoes a humid climate of the type Af, according to Köppen's classification (Peel *et al*. 2007). Thus, the reserve has an average annual temperature between 18.9°C and 30.9°C, and an average annual rainfall of between 1,500 and 2,000 mm (Kombele 2004; Toirambe 2015).

The reserve is drained by a network of, right bank, affluent rivers which all flow into the upper stretch of the middle Congo (Figure 1). These affluents include the Lobilo River, situated in the south-east, and the Lilanda River, situated on the western border of the reserve and draining south towards the middle Congo. In addition, it is further

drained by some affluents flowing into the Aruwimi River in the north. Finally, it is also drained by a few affluents of the Lindi River, the latter a more upstream, right bank, affluent of the upper stretch of the middle Congo, and draining the eastern most part of the reserve (Toirambe 2015; Kyale *et al*. 2019; Mambo *et al*. 2020).

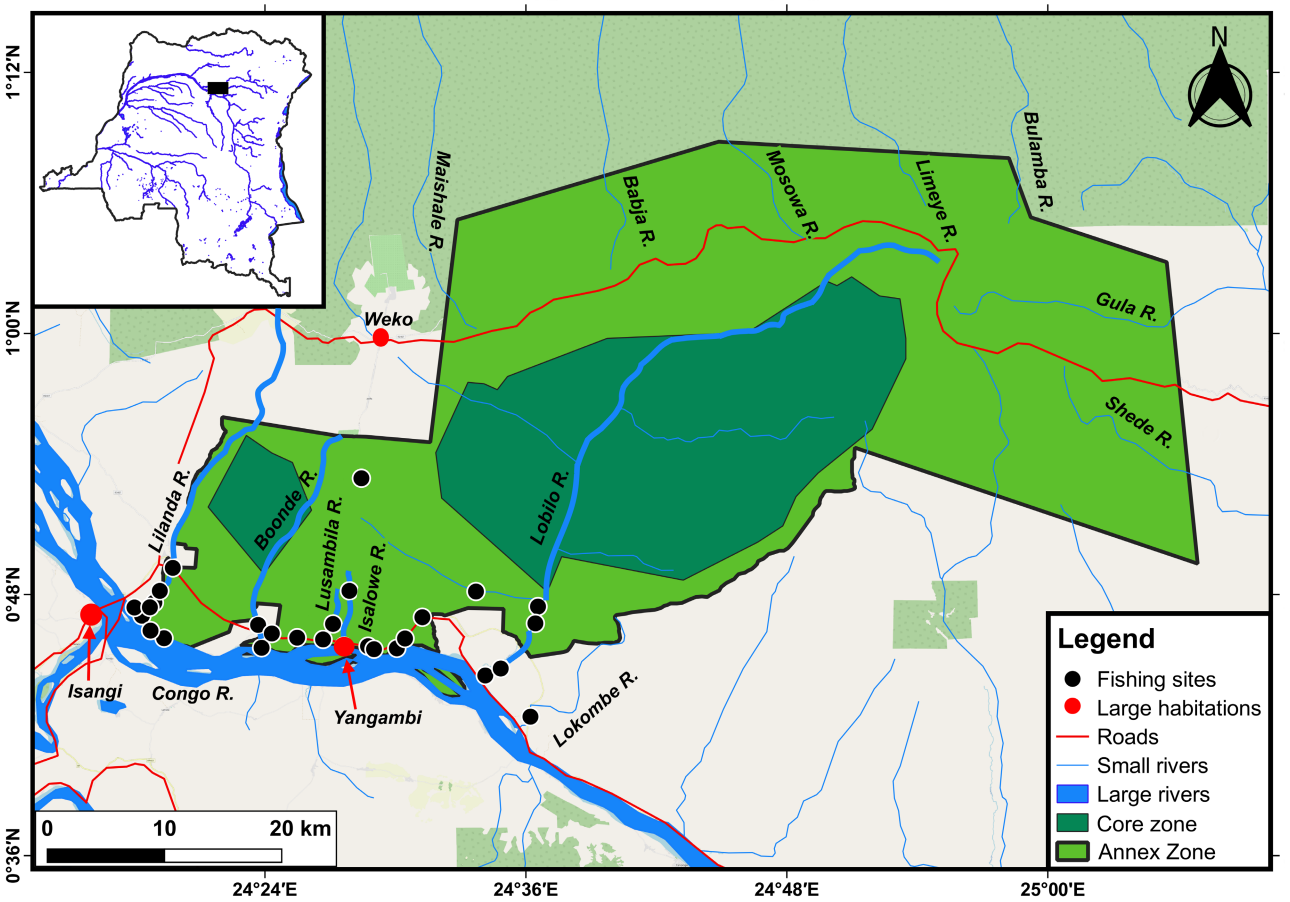


FIGURE 1. Map of ichthyofaunal sampling sites in the rivers draining the Yangambi Biosphere Reserve (YBR), based on scientific publications and reports (1950–2025). R.: River.

Fish species recorded from the rivers of the YBR

The earliest studies devoted to the ichthyofauna of the YBR date back to the Belgian colonial period (before 1960) and were conducted by Hulot (1950). Other studies followed, notably those by Poll (1954) and Lambert (1961). In the same context, Poll & Gosse (1963) carried out a joint study. Finally, in the same year, Gosse (1963) proposed the first comprehensive overview of the ichthyofauna of the YBR. His examination of the existing collections identified 200 native fish species, and one introduced, including 12 species new to science.

Fifty years after these first studies, new research was conducted in 2010 on the upper stretch of the middle Congo and one of its right bank affluents, the Lilanda River at Yaekama, within the YBR, as part of the "Boyekoli Ebale Congo" expedition (unpublished data). The expedition was conducted as a collaboration between the Royal Museum for Central Africa (RMCA), Belgium; the Royal Belgian Institute of Natural Sciences (RBINS), Belgium; the Meise Botanic Garden (MBG), Belgium, and the "Centre de Surveillance de la Biodiversité de l'Université de Kisangani" (CSB/UNIKIS, DRC). In the same year, the "Upper Congo Fishes*"* project organised another expedition on the upper stretch of the middle Congo and another of its right bank affluents, the Lobilo River, within the YBR. This expedition was conducted in collaboration between the Cornell University (USA) and UNIKIS (Lavoué & Sullivan 2014). Furthermore, between 2010 and 2011, T. Moelants (RMCA; KU Leuven) and C. Danadu (UNIKIS) conducted fieldwork along the upper stretch of the middle Congo at Yaekama as part of the doctoral research of the former (Moelants 2015). In addition, between 2012 and 2014, the *"*Congo Basin: from Carbon to Fishes" (COBAFISH) project also conducted studies on the upper stretch of the middle Congo at Yangambi and on the Lobilo River (Verheyen *et al*. 2014). The sampling points of all these currently available studies (scientific publications and reports) on the ichthyofauna of the rivers of the YRB are shown in Figure 1.

Finally, between 2013 and 2023, the "Mbisa Congo I" and "Mbisa Congo II "projects conducted exploratory surveys in several rivers of the YBR, as part of Mambo's (2018–2019) Master's and PhD research. The collected specimens are still under examination; however, preliminary results have already led to the description of one species new to science (Mambo *et al*. 2020). A separate article synthesising the results of these recent collection efforts is currently underway (Mambo *et al*. in prep.).

Methods

A species list was compiled based on the publications from 1950–2025 (Hulot 1950; Poll 1954; Lambert 1961; Gosse 1963; Poll & Gosse 1963; Lavoué & Sullivan 2014; Moelants 2015; Lokinda *et al*. 2017; Moritz & Britz 2019; Mambo *et al*. 2020; Liyandja *et al*. 2025). This compilation provides an up-to-date overview of the fish species diversity present in the YBR. Species richness per family was calculated. Species distribution by major affluents was based on their absence versus presence. Conservation status of the different species listed in the YBR are reported according to their last IUCN Red List assessment. The threats identified for the reported species also come from the IUCN Red List. The information was synthesised and conclusions were drawn based on the threats identified in the different areas and/or river basins where the species occur. Explanations of the categories of the IUCN Red List conservation status are detailed in the following reference, IUCN Standards and Petitions Committee (2024).

Results

Species diversity

A review of the literature on the fish diversity occurring in the YBR revealed a total of 224 native and three introduced species (see Table 1). These species are divided over 92 genera and 30 families. The most diverse (native) families are the Mormyridae (43 species: 19.2%), followed by the Distichodontidae (23 species: 10.3%), Alestidae (20 species: 8.9%), Cyprinidae (19 species: 8.5%), Mochokidae (16 species: 7.1%), Clariidae (13 species: 5.8%), Cichlidae (12 species: 5.4%), and Anabantidae (10 species: 4.5%) (Figure 2). Furthermore, seven native fish families are monospecific (1 species: 0.4%): Pantodontidae, Notopteridae, Phractolaemidae, Hepsetidae, Bagridae, Butidae, and Latidae. In addition, there is also a single introduced species from the family Arapaimidae (1 species: 0.4%). Both other introduced species belong to the family Cichlidae (see Table 1).

The rivers with the highest documented species diversity are: the upper stretch of the main middle Congo River, with 196 native species (87.5%); the Lobilo River with 135 species (60.3%); the Lilanda River, with 122 species (54.5%); and the Boonde River with 104 species (46.4%). The Lusambila and Isalowe rivers have the lowest species richness, with 53 (23.7%) and 48 (21.4%) species, respectively (see Table 1). However, the areas drained by affluent rivers of the Aruwimi (in the north) and the Lindi (in the east) of the YBR (see Figure 1) have, up to date, not been part of even a single important collecting effort and, as a result, publications on their ichthyofauna are also lacking.

According to the IUCN Red List assessments of the 224 native species recorded, nine species (4.5%) are currently classified as Not Evaluated (NE): *Ctenopoma pellegrini* (Boulenger), *Distichodus teugelsi* Mamonekene & Vreven, *Hepsetus microlepis* (Boulenger), *Hylopanchax silvestris* (Poll & Lambert), *Malapterurus monsembeensis* Roberts, *Marcusenius lambouri* (Pellegrin), *M. verheyenorum* Mambo *et al.*, *Petrocephalus arnegardi* Lavoué & Sullivan, and *P. boboto* Lavoué & Sullivan. In addition, seven species (3.1%) are classified as Data Deficient (DD): *Congothrissa gossei* Poll, *Enteromius pygmaeus* (Poll and Gosse), *E. tetrastigma* (Boulenger), *Epiplatys multifasciatus* (Boulenger), *Labeo reidi* Tshibwabwa, *Microsynodontis lamberti* Poll and Gosse, and *Pelmatochromis ocellifer* Boulenger. Finally, all the remaining 208 species (92.9%) are classified as Least Concern (LC). Despite the anthropogenic threats to this fauna within the YBR, no species has yet been classified as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) (Table 1).

Regarding the assessments of fish species recorded in the YBR region, based on the last assessment date of each species, the IUCN Red List results indicate that 187 species (87.0%) were last assessed in 2010, which is now about 15 years ago. Furthermore, the 28 species (13.0%) that were most recently assessed were assessed after 2018, i.e. less than about 7 years ago (see Table 1).

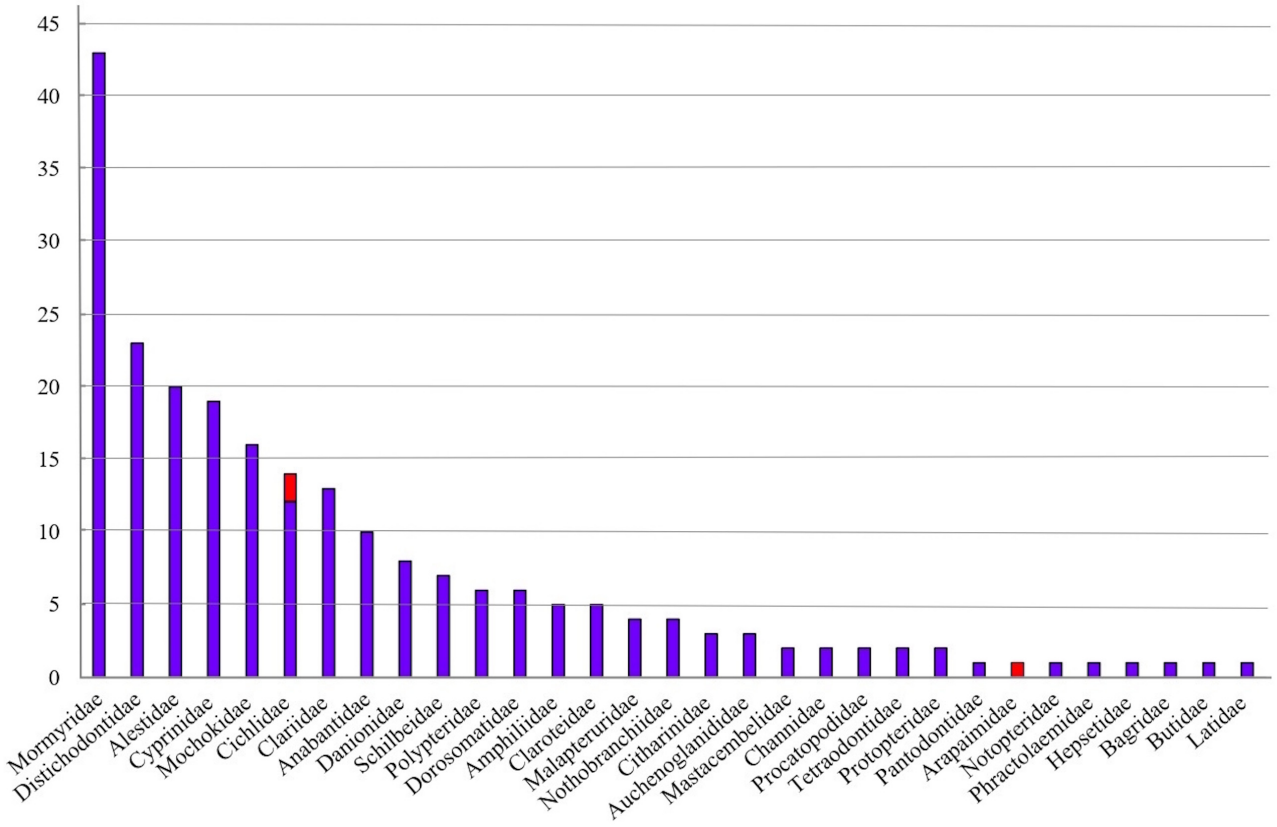


FIGURE 2. Species richness of the native and introduced (marked in red) fish families and species reported from the Yangambi Biosphere Reserve (YBR), based on scientific publications and reports (1950–2025) of the rivers draining the YBR.

Based on the latest assessments of each species, considering threats to fish fauna throughout their range, including rivers draining the YBR, the results indicate that 61 species (28.5%) are affected by habitat degradation and/or modification, water pollution, mining, and overfishing. Furthermore, 15 species (7.0%) face potential threats, but with nevertheless no significant impact due to their wide distribution. However, for the majority, 138 species (64.5%), the threats remain unknown (see Table 1).

TABLE 1. List of the fish species currently reported from the rivers draining the Yangambi Biosphere Reserve (YBR), based on a review of the scientific literature and reports covering all rivers surveyed in the reserve between 1950 and 2025. In order of appearance (main river and right bank affluents from up- to downstream): MCR = upper stretch of the middle Congo River, Lo = Lobilo River, Bo = Boonde River, Is = Isalowe River, Lu = Lusambila River, Li = Lilanda River. - = absent, E = endemic, I = introduced, X = present. Conservation status according to the IUCN Red List, with date of last assessment (between brackets): DD = Data Deficient, LC = Least Concern, NE = Not Evaluated. Taxa, being orders and families, arranged according to Fricke *et al*. (2026). Instead, species listed alphabetically.

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Polypteriformes									
Polypteridae (6)									
Polypterus congicus Boulenger, 1898	X	-	-	-	-	-	LC (2010)	No impact	Gosse (1963), Poll & Gosse (1963), Moritz & Britz (2019)
Polypterus ornatipinnis Boulenger, 1899	X	X	X	-	-	X	LC (2010)	Overfishing, Habitat modification	Gosse (1963), Poll & Gosse (1963), Moritz & Britz (2019)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Polypterus polli Gosse, 1988	X	-	X	-	-	X	LC (2010)	No impact	Gosse (1963), Poll & Gosse (1963), Moritz & Britz (2019)
Polypterus retropinnis Vaillant, 1899	-	X	X	-	-	X	LC (2020)	None known	Poll (1954), Lambert (1961), Gosse (1963), Poll & Gosse (1963), Moritz & Britz (2019)
Polypterus senegalus Cuvier, 1829	X	-	-	-	-	-	LC (2020)	None known	Moritz & Britz (2019)
Polypterus weeksii Boulenger, 1898	-	X	-	-	-	-	LC (2010)	No impact	Gosse (1963), Poll & Gosse (1963), Moritz & Britz (2019)
Osteoglossiformes									
Pantodontidae (1)									
Pantodon buchholzi Peters, 1877	X	X	X	-	-	X	LC (2020)	No impact	Poll (1954), Lambert (1961), Gosse (1963), Poll & Gosse (1963)
Arapaimidae (1)									
Heterotis niloticus (Cuvier, 1829)	I	-	-	-	-	I	LC (2020)	-	Moelants (2015)
Notopteridae (1)									
Xenomystus nigri (Günther, 1868)	X	X	X	-	-	X	LC (2010)	None known	Poll (1954), Lambert (1961), Gosse (1963), Poll & Gosse (1963)
Mormyridae (43)									
Campylomormyrus alces (Boulenger, 1920)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Campylomormyrus curvirostris (Boulenger, 1898)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Campylomormyrus numenius (Boulenger, 1898)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Campylomormyrus rhynchophorus (Boulenger, 1898)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Campylomormyrus tamandua (Günther, 1864)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Cyphomyrus psittacus (Boulenger, 1897)	X	X	-	-	-	-	LC (2010)	None known	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Genyomyrus donnyi Boulenger, 1898	X	X	-	-	-	X	LC (2010)	None known	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Gnathonemus echidnorhynchus Pellegrin, 1924	X	X	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Gnathonemus petersii (Günther, 1862)	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Marcusenius greshoffi (Schilthuis, 1891)	X	X	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Marcusenius kutuensis (Boulenger, 1899)	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Marcusenius lambouri (Pellegrin, 1904)	X	X	X	-	X	X	NE	-	Gosse (1963), Poll & Gosse (1963), Mambo *et al*. (2020)
Marcusenius leopoldianus (Boulenger, 1899)	-	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Marcusenius macrolepidotus (Peters, 1852)	X	X	-	X	X	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Marcusenius monteiri (Günther, 1873)	X	X	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Marcusenius schilthuisiae (Boulenger, 1899)	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Marcusenius verheyenorum Mambo, Kisekelwa, Danadu, Decru & Vreven, 2020	-	-	-	-	-	X	NE	-	Mambo *et al*. (2020)
Marcusenius stanleyanus (Boulenger, 1897)	X	X	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrops anguilloides (Linnaeus, 1758)	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Mormyrops attenuatus Boulenger, 1898	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrops furcidens Pellegrin, 1900	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrops mariae (Schilthuis, 1891)	-	X	-	-	-	-	LC (2010)	Mining	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Mormyrops nigricans Boulenger, 1899	X	X	X	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Mormyrops sirenoides Boulenger, 1898	-	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrops boulengeri (Pellegrin, 1900)	-	X	X	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrops zanclirostris (Günther, 1867)	-	X	X	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Mormyrus caballus Boulenger, 1898	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mormyrus rume Valenciennes, 1847	X	-	-	-	-	-	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Myomyrus macrops Boulenger, 1914	X	-	-	-	-	-	LC (2020)	None known	Gosse (1963)
Petrocephalus arnegardi Lavoué & Sullivan, 2014	X	X	X	-	-	-	NE	-	Lavoué & Sullivan (2014)
Petrocephalus balayi Sauvage, 1883	X	X	X	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Petrocephalus boboto Lavoué & Sullivan, 2014	E	-	-	-	-	-	NE	-	Lavoué & Sullivan (2014)
Petrocephalus christyi Boulenger, 1920	X	X	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Petrocephalus grandoculis Boulenger, 1920	X	X	X	X	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Petrocephalus microphthalmus Pellegrin, 1909.	X	X	X	X	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Petrocephalus sauvagii (Boulenger, 1887)	X	X	-	-	-	-	LC (2010)	None known	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Petrocephalus schoutedeni Poll, 1954	X	X	-	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Walschaerts (1961)
Petrocephalus simus Sauvage, 1879	X	X	X	-	-	-	LC (2020)	None known	Gosse (1963), Poll & Gosse (1963)
Pollimyrus adspersus (Günther, 1866)	X	X	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Pollimyrus nigripinnis (Boulenger, 1899)	X	X	-	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Pollimyrus plagiostoma (Boulenger, 1898)	X	-	-	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Stomatorhinus fuliginosus Poll, 1941	-	X	X	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Stomatorhinus patrizii Vinciguerra, 1928	X	X	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clupeiformes									
Dorosomatidae (6)									
Congothrissa gossei Poll, 1964	X	-	-	-	-	-	DD (2018)	None known	Moelants (2015)
Microthrissa congica (Regan, 1917)	X	X	X	-	X	-	LC (2010)	None known	Gosse (1963), Lambert (1961)
Microthrissa royauxi Boulenger, 1902	X	X	-	-	-	-	LC (2010)	Overfishing	Poll (1954), Lambert (1961), Gosse (1963), Poll & Gosse (1963)
Odaxothrissa losera Boulenger, 1899	X	-	-	X	-	-	LC (2021)	Overfishing	Poll (1954), Gosse (1963)
Potamothrissa acutirostris (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Potamothrissa obtusirostris (Boulenger, 1909)	X	-	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Gonorhynchiformes									
Phractolaemidae (1)									
Phractolaemus ansorgii Boulenger, 1901	X	-	X	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963)
Cypriniformes									
Cyprinidae (19)									

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Clypeobarbus matthesi Poll & Gosse, 1963	X	-	-	X	-	X	LC (2018)	None known	Gosse (1963), Poll & Gosse (1963)
Clypeobarbus pleuropholis (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Enteromius atromaculatus Nichols & Griscom, 1917	X	X	X	X	X	X	LC (2018)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Enteromius candens Nichols & Griscom, 1917	X	X	X	X	X	X	LC (2018)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Enteromius jae Boulenger, 1903	-	-	X	X	X	-	LC (2018)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Enteromius lukusiensis (David & Poll, 1937)	X	-	-	-	-	-	LC (2018)	None known	Gosse (1963), Poll & Gosse (1963)
Enteromius miolepis (Boulenger, 1902)	X	X	X	-	-	-	LC (2010)	None known	Moelants (2015)
Enteromius pygmaeus Poll & Gosse, 1963	X	X	-	-	-	X	DD (2018)	None known	Gosse (1963), Poll & Gosse (1963)
Enteromius tetrastigma (Boulenger, 1914)	X	-	-	-	-	-	DD (2018)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo barbatus Boulenger, 1898	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo cyclopinnis Nichols & Griscom, 1917	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo cyclorhynchus Boulenger, 1899	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo greenii Boulenger, 1902	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo lineatus Boulenger, 1898	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Labeo longipinnis Boulenger, 1898	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Moelants (2015)
Labeo parvus Boulenger, 1902	X	X	-	-	-	-	LC (2020)	No impact	Gosse (1963), Poll & Gosse (1963), Lambert (1961), Liyandja *et al*. (2025)
Labeo quadribarbis Poll & Gosse, 1963	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Liyandja *et al*. (2025)
Labeo reidi Tshibwabwa, 1997	X	-	-	-	-	-	DD (2010)	None known	Tshibwabwa (1997)
Labeobarbus caudovittatus (Boulenger, 1902)	X	X	-	X	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Danionidae (8)									
Leptocypris lujae (Boulenger, 1909)	X	-	-	-	X	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Moelants (2015)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Leptocypris modestus Boulenger, 1900	X	X	X	-	-	-	LC (2010)	None known	Moelants (2015)
Leptocypris weeksii (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Leptocypris weynsii (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Raiamas buchholzi (Peters, 1876)	-	-	-	-	X	-	LC (2010)	None known	Gosse (1963)
Raiamas christyi (Boulenger, 1920)	X	X	X	X	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Raiamas salmolucius (Nichols & Griscom, 1917)	-	X	-	-	-	-	LC (2010)	Erosion of river	Poll & Gosse (1963)
Opsaridium ubangiense (Pellegrin, 1901)	-	X	-	-	-	-	LC (2020)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Characiformes									
Citharinidae (3)									
Citharinus congicus Boulenger, 1897	X	-	-	-	-	-	LC (2010)	None known	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Citharinus gibbosus Boulenger, 1899	X	X	-	-	-	-	LC (2010)	Overfishing	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Citharinus macrolepis Boulenger, 1899	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Distichodontidae (23)									
Belonophago hutsebouti Giltay, 1929	-	-	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Congocharax olbrechtsi (Poll, 1954)	X	-	-	-	X	-	LC (2010)	None known	Poll (1954), Gosse (1963)
Distichodus affinis Günther, 1873	X	X	X	-	-	-	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Distichodus antonii Schilthuis, 1891	X	X	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Distichodus atroventralis Boulenger, 1898	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Distichodus decemmaculatus Pellegrin, 1926	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Distichodus fasciolatus Boulenger, 1898	X	X	-	X	X	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Distichodus lusosso Schilthuis 1891	X	X	X	-	-	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Distichodus maculatus Boulenger, 1898	X	X	X	-	X	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Distichodus sexfasciatus Boulenger, 1897	X	-	X	-	-	-	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Distichodus teugelsi Mamonekene & Vreven, 2008	X	X	X	-	-	X	NE	-	Mamonekene & Vreven (2008), Moelants (2015)
Eugnathichthys eetveldii Boulenger, 1898	X	-	-	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Eugnathichthys macroterolepis Boulenger, 1899	X	-	X	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Mesoborus crocodilus Pellegrin, 1900	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Nannocharax brevis Boulenger, 1902	-	-	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Nannocharax elongatus Boulenger, 1900	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Nannocharax gracilis Poll, 1939	-	-	X	X	-	X	LC (2010)	Mining	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Nannocharax taenia Boulenger, 1902	X	X	X	X	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Neolebias trewavasae Poll & Gosse, 1963	-	X	-	-	-	X	LC (2010)	None known	Gosse (1963)
Neolebias trilineatus Boulenger, 1899	X	X	X	-	X	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Phago boulengeri Schilthuis, 1891	X	X	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Phago intermedius Boulenger, 1899	X	-	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Xenocharax crassus Pellegrin, 1900	X	X	X	-	-	X	LC (2010)	-	Gosse (1963), Poll & Gosse (1963)
Alestidae (20)									
Alestes liebrechtsii Boulenger, 1898	X	X	-	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Alestes macrophthalmus Günther, 1867	X	-	-	-	-	-	LC (2010)	Overfishing	Poll (1954), Gosse (1963)
Alestopetersius compressus (Poll & Gosse, 1963)	X	X	X	X	X	X	LC (2010)	None known	Poll & Gosse (1963)
Bathyaethiops caudomaculatus (Pellegrin, 1925)	X	X	X	X	-	X	LC (2010)	Overfishing	Poll & Gosse (1963)
Brachypetersius altus (Boulenger, 1899)	X	X	X	-	-	X	LC (2010)	None known	Poll & Gosse (1963)
Brachypetersius huloti (Poll, 1954)	X	X	X	X	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961),
Brycinus grandisquamis (Boulenger, 1899)	X	X	-	-	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Brachyalestes imberi (Peters, 1852)	X	X	-	X	-	X	LC (2018)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Brycinus macrolepidotus Valenciennes, 1850	X	-	-	-	-	-	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Bryconaethiops boulengeri Pellegrin, 1900	X	X	X	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Bryconaethiops macrops Boulenger, 1920	X	X	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Bryconaethiops microstoma Günther, 1873	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Hydrocynus goliath Boulenger, 1898	X	-	-	-	-	-	LC (2025)	Habitat modification	Gosse (1963), Poll & Gosse (1963)
Hydrocynus vittatus Castelnau, 1861	X	X	X	-	-	X	LC (2025)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Micralestes acutidens (Peters, 1852)	X	X	X	X	X	X	LC (2020)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Micralestes humilis Boulenger, 1899	X	X	X	X	-	X	LC (2010)	Overfishing	Gosse (1963), Lambert (1961)
Micralestes stormsi Boulenger, 1902	X	X	-	-	-	-	LC (2010)	Erosion of river	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Phenacogrammus aurantiacus (Pellegrin, 1930)	-	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Phenacogrammus deheyni Poll, 1945	-	-	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Phenacogrammus interruptus (Boulenger, 1899)	X	X	X	X	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Hepsetidae (1)									
Hepsetus microlepis (Boulenger, 1901)	X	X	X	-	X	X	NE	-	Decru *et al*. (2012)
Siluriformes									
Bagridae (1)									
Bagrus ubangensis Boulenger, 1902	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clariidae (13)									
Channallabes apus (Günther, 1873)	-	X	X	-	X	X	LC (2010)	None known	Gosse (1963)
Clariallabes longicauda (Boulenger, 1902)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963)
Clariallabes melas (Boulenger, 1887)	-	X	X	-	-	-	LC (2010)	None known	Gosse (1963)
Clariallabes uelensis (Poll, 1941)	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Clarias angolensis Steindachner, 1866	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clarias buthupogon Sauvage, 1879	X	X	X	X	X	X	LC (2010)	Overfishing, habitat deterioration	Gosse (1963), Poll & Gosse (1963)
Clarias camerunensis Lönnberg, 1895	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clarias dumerilii Steindachner, 1866	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clarias gariepinus (Burchell, 1822)	X	-	X	-	X	-	LC (2019)	None known	Gosse (1963), Poll & Gosse (1963), Lokinda *et al*. (2017)
Clarias pachynema Boulenger, 1903	X	X	-	-	-	-	LC (2020)	No impact	Moelants (2015)
Clarias platycephalus Boulenger, 1902	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Clarias theodorae Weber, 1897	-	-	X	-	-	-	LC (2010)	None known	Gosse (1963), Moelants (2015)
Heterobranchus longifilis Valenciennes, 1840	X	X	-	-	-	-	LC (2019)	Overfishing	Gosse (1963)
Amphiliidae (5)									
Amphilius brevis Boulenger, 1902	X	X	X	-	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Belonoglanis tenuis Boulenger, 1902	X	X	-	-	-	-	LC (2010)	No impact	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Phractura lindica Boulenger, 1902	X	X	-	X	-	X	LC (2010)	No impact	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Phractura tenuicauda (Boulenger, 1902)	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963)
Trachyglanis ineac (Poll, 1954)	X	X	X	-	X	X	LC (2010)	None known	Poll (1954), Walschaerts (1961)
Malapteruridae (4)									
Malapterurus melanochir Norris, 2002	X	X	X	X	-	X	LC (2010)	None known	Norris (2002)
Malapterurus microstoma Poll & Gosse, 1969	X	X	X	X	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Malapterurus monsembeensis Roberts, 2000	X	X	X	X	-	X	NE	-	Norris (2002)
Paradoxoglanis parvus Norris, 2002	-	-	X	-	-	-	LC (2010)	None known	Norris (2002)
Mochokidae (16)									
Acanthocleithron chapini Nichols & Griscom, 1917	X	-	-	-	-	-	LC (2010)	None known	Poll & Gosse (1963)
Microsynodontis christyi Boulenger, 1920	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963), Lambert (1961)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Microsynodontis lamberti Poll & Gosse, 1963	-	-	-	-	-	E	DD (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Synodontis acanthomias Boulenger, 1899	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
*Synodontis alberti S*chiltuis, 1891	X	-	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis angelicus Schilthuis, 1891	X	-	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis contractus Vinciguerra, 1928	X	X	X	-	-	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Synodontis decorus Boulenger, 1899	X	-	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis flavitaeniatus Boulenger, 1919	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis greshoffi Schilthuis, 1891	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis nigriventris David, 1936	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Synodontis notatus Vaillant, 1893	X	X	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis nummifer Boulenger, 1899	X	-	-	-	-	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Synodontis pleurops Boulenger, 1897	X	-	-	-	-	-	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Synodontis schoutedeni David, 1936	-	-	X	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Synodontis soloni Boulenger, 1899	X	-	X	-	-	-	LC (2010)	Mining, pollution	Gosse (1963), Poll & Gosse (1963)
Auchenoglanididae (3)									
Auchenoglanis occidentalis (Valenciennes, 1840)	X	X	-	X	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Parauchenoglanis cf. *punctatus* (Boulenger, 1902)	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Parauchenoglanis punctatus (Boulenger, 1902)	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Claroteidae (5)									
Chrysichthys cranchii (Leach, 1818)	X	-	-	-	-	-	LC (2010)	No impact	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Chrysichthys longibarbis (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	No impact	Hulot (1950), Poll (1954), Gosse (1963), Poll & Gosse (1963)
Chrysichthys longipinnis (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	No impact	Hulot (1950), Poll (1954), Gosse (1963), Poll & Gosse (1963)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Chrysichthys punctatus Boulenger, 1899	X	X	X	-	-	X	LC (2010)	No impact	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Gephyroglanis congicus (Boulenger, 1899)	X	-	-	-	-	-	LC (2010)	No impact	Poll (1954), Gosse (1963), Poll & Gosse (1963)
Schilbeidae (7)									
Parailia congica Boulenger, 1899	X	-	X	-	-	X	LC (2010)	None known	Gosse (1963)
Pareutropius debauwi (Boulenger, 1900)	X	X	X	-	X	X	LC (2010)	Overfishing	Gosse (1963)
Schilbe grenfelli (Boulenger, 1900)	X	X	X	-	X	X	LC (2010)	None known	Gosse (1963)
Schilbe intermedius Rüppell, 1832	X	X	X	X	-	X	LC (2020)	Overfishing	Moelants (2015)
Schilbe laticeps (Boulenger, 1899)	X	X	-	-	-	X	LC (2010)	None known	Poll (1954), Gosse (1963)
Schilbe marmoratus Boulenger, 1911	X	X	X	X	X	X	LC (2010)	Overfishing	Gosse (1963)
Schilbe yangambianus (Poll, 1954)	X	X	X	X	-	X	LC (2010)	None known	Poll (1954), Gosse (1963), Moelants (2015), Walschaerts (1961)
Gobiiformes									
Butidae (1)									
Kribia nana (Boulenger, 1901)	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963)
Synbranchiformes									
Mastacembelidae (2)									
Mastacembelus congicus Boulenger, 1896	X	X	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Mastacembelus niger Sauvage, 1879	X	X	X	X	X	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Anabantiformes									
Anabantidae (10)									
Ctenopoma acutirostre (Pellegrin, 1899)	X	X	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Ctenopoma kingsleyae Günther, 1896	X	X	-	-	-	X	LC (2020)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Ctenopoma nigropannosum Reichenow, 1875	X	X	X	X	-	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Ctenopoma ocellatum Pellegrin, 1899	X	X	X	X	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Ctenopoma pellegrini (Boulenger, 1902)	X	-	X	-	-	X	NE	-	Gosse (1963), Poll & Gosse (1963)
Ctenopoma weeksii Boulenger, 1896	X	X	-	-	-	X	LC (2010)	Overfishing	Lambert (1961), Moelants (2015)

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TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Microctenopoma ansorgii (Boulenger, 1912)	X	X	-	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Microctenopoma congicum (Boulenger, 1887)	X	-	-	-	-	X	LC (2020)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Microctenopoma fasciolatum (Boulenger, 1899)	X	X	X	-	X	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Microctenopoma nanum (Günther, 1896)	X	X	X	X	X	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Channidae (2)									
Parachanna insignis (Sauvage, 1884)	X	-	-	-	-	X	LC (2010)	None known	Poll & Gosse (1963)
Parachanna obscura (Günther, 1861)	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Carangiformes									
Latidae (1)									
Lates niloticus (Linnaeus, 1758)	X	-	-	-	-	-	LC (2020)	Overfishing	Gosse (1963), Poll & Gosse (1963)
Cyprinodontiformes									
Nothobranchiidae (4)									
Aphyosemion castaneum Myers, 1924	X	X	-	-	-	-	LC (2010)	None known	Moelants (2015)
Aphyosemion christyi (Boulenger, 1915)	X	X	X	X	X	X	LC (2010)	Overfishing	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Epiplatys chevalieri (Pellegrin, 1904)	X	X	X	-	-	X	LC (2010)	Overfishing	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Epiplatys multifasciatus (Boulenger, 1913)	-	X	X	X	X	X	DD (2010)	Overfishing	Gosse (1963), Lambert (1961)
Procatopodidae (2)									
Hylopanchax silvestris (Poll & Lambert, 1958)	-	X	X	X	X	X	NE	-	Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Hypsopanchax platysternus (Nichols & Griscom, 1917)	-	X	X	X	X	X	LC (2010)	Overfishing	Hulot (1950), Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Cichliformes									
Cichlidae (14)									
Congochromis squamiceps (Boulenger, 1902)	X	X	X	X	X	X	LC (2010)	None known	Hulot (1950), Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Coptodon congica (Poll & Thys van den Audenaerde, 1960)	X	-	-	-	-	X	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)

.....continued on the next page

TABLE 1. (Continued)

Species	MCR	Lo	Bo	Is	Lu	Li	IUCN Red List	Threat IUCN	Scientific literature sources
Coptodon zillii (Gervais, 1848)	X	-	X	-	-	-	LC (2020)	Habitat deterioration	Gosse (1963), Poll & Gosse (1963)
Rubricatochromis stellifer (Loiselle, 1979)	X	-	-	X	-	-	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Hemichromis elongatus (Guichenot, 1861)	X	X	X	X	X	X	LC (2010)	None known	Poll (1954), Gosse (1963), Poll & Gosse (1963), Lambert (1961)
Lamprologus mocquardi Pellegrin, 1903	X	X	-	X	-	X	LC (2010)	None known	Gosse (1963), Lambert (1961)
Oreochromis niloticus (Linnaeus, 1758)	I	-	-	I	-	I	LC (2023)	-	Gosse (1963), Poll & Gosse (1963), Lokinda *et al*. (2017)
Oreochromis upembae (Thys Van den Audenaerde, 1964)	I	-	-	-	-	I	LC (2010)	-	Trewavas & Teugels (1991)
Pelmatochromis ocellifer Boulenger, 1899	X	-	-	-	-	-	DD (2010)	None known	Poll (1954), Gosse (1963)
Pseudocrenilabrus nicholsi (Pellegrin, 1928)	-	-	-	-	X	-	LC (2010)	None known	Poll (1954), Gosse (1963)
Sarotherodon galilaeus (Linnaeus, 1758)	X	-	-	-	-	X	LC (2010)	Overfishing	Gosse (1963)
Tylochromis labrodon Regan, 1920	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Tylochromis lateralis (Boulenger, 1898)	X	-	X	X	-	-	LC (2010)	None known	Hulot (1950), Gosse (1963), Poll & Gosse (1963)
Tylochromis robertsi Stiassny, 1989	X	-	X	-	X	-	LC (2010)	None known	Gosse (1963), Moelants (2015)
Tetraodontiformes									
Tetraodontidae (2)									
Tetraodon mbu Boulenger, 1899	X	-	-	-	X	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Tetraodon miurus Boulenger, 1902	X	-	-	-	-	-	LC (2010)	None known	Gosse (1963), Poll & Gosse (1963)
Ceratodontiformes									
Protopteridae (2)									
Protopterus aethiopicus Heckel, 1851	X	-	-	-	-	-	LC (2018)	No impact	Gosse (1963), Poll & Gosse (1963)
Protopterus dolloi Boulenger, 1900	X	X	X	-	-	-	LC (2010)	No impact	Poll (1954), Gosse (1963)
Total by River Basin	**195**	**135**	**105**	**48**	**53**	**122**			

Taxonomic notes

The taxonomic names and systematic classification of certain families, genera, and species presented in Table 1 differs from that reported in previous references, such as: Hulot (1950), Poll (1954), Lambert (1961), Gosse (1963), and Poll & Gosse (1963). These changes are mainly the result of successive taxonomic revisions, motivated by: (i) increased morphological and biogeographical knowledge; (ii) the re-examination of type specimens and historical

specimens; (iii) the reevaluation of old synonymies; (iv) the description of new species; (v) advances in molecular phylogenetics and (vi) the evolution and updating of species concepts. These revisions have been documented in several reference works and are provided here to help further studies in the YBR: Nelson (1984), Norris (1994), Vreven (2001), Nelson (2006), Nelson *et al*. (2016), Decru *et al*. (2012), Moelants (2015), Moritz & Britz (2019), Mambo *et al*. (2020), Fricke *et al*. (2026), and Froese & Pauly (2026).

Polypteridae. The species-level taxonomy of all extant members of this family was recently revised by Moritz & Britz (2019), who recognised two genera: *Polypterus*, comprising 13 valid species, and the monotypic *Erpetoichthys*. Of these two genera, only *Polypterus* is represented in YBR. At present, six species of this genus are reported to occur in the rivers of the YBR (Table 1). Although historically reported from the Yangambi region (Gosse 1963), the geographical distribution of *P. palmas* Ayres is currently considered to be restricted to the southern half of Liberia and western Côte d'Ivoire (Moritz & Britz 2019). Further, *Polypterus senegalus meridionalis* Poll, also reported from the YBR (Gosse 1963), is now considered a junior synonym of *P. senegalus* Cuvier.

Pantodontidae. This monogeneric family comprises the genus *Pantodon* only, which is currently known based on a single extant species, *Pantodon buchholzi* Peters (Table 1), commonly known as the African freshwater butterflyfish (Teugels 1990). Lavoué *et al*. (2011) have identified two genetically distinct lineages within *P. buchholzi*, which have diverged at least since 57.2 Ma. Yet very little morphological divergence was noted between them, suggesting a remarkable morphological conservatism. As this species was described from a "small creek from Victoria River, Victoria, Cameroon, West Africa" (Fricke *et al*. 2026), it might be that specimens originating from the YBR and other rivers within the Congo Basin represent a different taxon. However, unpublished morphological data and analyses did not confirm this.

Arapaimidae. There is only a single, African, extant species, *Heterotis niloticus* (Cuvier) reported from the rivers of the YBR (Table 1). It is also known as the African arowana and was formerly classified in the family Osteoglossidae. Closely related species to the African arowana include the South American arapaimas from the Amazon and Essequibo basins. *Heterotis niloticus* is native in the watersheds of the Sahelo-Sudanese region, particularly those of Senegal, Gambia and parts of East Africa (Ferraris 2003). According to some authors, this taxon is sometimes treated as a subfamily (Arapaiminae) (Hastings *et al*. 2014). The name Heterotidinae has also been widely used (Nelson *et al*. 2016). However, in accordance with the principle of priority established by the International Code of Zoological Nomenclature (ICZN, 2022: Art. 23), the name Arapaimidae has priority (Froese & Pauly 2026). Both, the classification and the name of the clade containing *Arapaima* and *Heterotis* are uncertain. Some include this clade in the Osteoglossidae family with the arowanas of South America and Asia (Vitorino *et al*. 2015). Others, instead, place *Arapaima* and *Heterotis* together in their own family, the Arapaimidae (Fricke *et al*. 2026). Nevertheless, *Heterotis niloticus* is considered an introduced species in the rivers of the YBR.

Notopteridae. Notopterids are commonly known as knifefish or featherfish and comprises four genera placed in two different subfamilies: the Asian Notopterinae and the African Xenomystinae. Species in this family are mainly found in freshwater but can also inhabit brackish water. They are generally characterised by the presence of a small dorsal fin, absent in the genus *Xenomystus*, the only genus of this family present in the YBR, as well as by a long anal fin confluent with the caudal fin (Roberts 1992). *Xenomystus* has long been considered a monospecific genus, with *X. nigri* as its only valid representative (Roberts 1992). Indeed, at present, only one species, *Xenomystus nigri* (Günther), is reported from the rivers of the YBR (Table 1). However, an ongoing study (Liyandja pers. comm. 2026) has identified several species within the genus, and specimens from the YBR appear to belong to one of the new species, for science, currently under description.

Mormyridae. There are 34 species reported to occur in the rivers of the YBR (Table 1). Indeed, several members of this extremely diverse Osteoglossiformes family are known to occur in rivers draining the YBR but have undergone changes in their generic placement since their mention in earlier publications. This is true for: *Cyphomyrus psittacus* (Boulenger) (formerly known as *Marcusenius psittacus*), *Marcusenius lambouri* (Pellegrin) (as *Gnathonemus lambouri*), *Mormyrops anguilloides* (Linnaeus) as *M. deliciosus* (Leach), *Mormyrus rume* (Valenciennes) as *Mormyrus proboscirostris* Boulenger, *Myomyrus macrops* Boulenger as *Marcusenius macrops* Boulenger (see Hulot 1950; Gosse 1963; Poll & Gosse 1963; Fricke *et al*. 2026; Froese & Pauly 2026).

Furthermore, *M. lambouri* originally described from the middle Congo Basin (Poll 1948; Gosse 1963) and erroneously placed in synonymy with *Marcusenius moorii* (Günther), was recently revalidated by Mambo *et al.* (2020). They demonstrated that *M. lambouri* is clearly distinguished from *M. moorii* by a higher number of scales in the lateral line (44–46 vs. 40–43) and several morphometric features as well (Mambo *et al*. 2020).

There has been ongoing confusion regarding the use of the generic name *Oxymormyrus* for the species *Mormyrops zanclirostris* (Günther) and *M. boulengeri*. Indeed, while according to the Catalog of Fishes *M. zanclirostris* is placed in the genus *Mormyrops*, instead *M. boulengeri* has been transferred and kept in the genus *Oxymormyrus* (Fricke *et al*. 2026). However, FishBase classifies both within the genus *Mormyrops* (Froese & Pauly 2026), consistent with their generic placement in Hopkins *et al.* (2007: 251), where also *M. boulengeri* was placed in the genus *Mormyrops* (see under species description of *M. zanclirostris*).

Dorosomatidae. Formerly regarded as a subfamily of Clupeidae, this group was recently elevated to family rank based on molecular phylogenetic evidence (Wang *et al*. 2022). In the rivers of the YBR, they are represented by four genera and six species (Table 1). *Microthrissa congica* (Regan), originally described as *Poecilothrissa congica*, was reclassified later by Gourène & Teugels (1990). A recent study based on a single mitochondrial gene reported several genera of this family in the Congo Basin, including *Microthrissa* and *Potamotrissa*, to be paraphyletic (Delling *et al*. 2024). Therefore, a genus-level taxonomic revision integrating both multiloci genetic and morphological data is needed to address this issue.

Phractolaemidae. This African endemic and monotypic freshwater fish family was formerly classified in the order Clupeiformes (see Thys van den Audenaerde 1961). Analysis of mitochondrial DNA sequences has shown this group to form a distinct lineage, now attached to the order Gonorynchiformes (Lavoué *et al*. 2005; Froese & Pauly 2026). The only recognised species, *Phractolaemus ansorgii* Boulenger, also reported from the rivers of the YBR (Table 1), is widespread in African freshwater.

Cyprinidae. There are 20 species reported to occur in the rivers of the YBR (Table 1). Historically, many African cyprinid species were assigned to the genus *Barbus*, which Myers (1960) described as a "monstrous aggregation". However, subsequently, karyological studies (Golubtsov & Krysanov 1993; Guégan *et al*. 1995; Oellermann & Skelton 1990) have identified three ploidy levels: diploid, tetraploid, and hexaploidy species. Only tetraploid species (2n = c. 100 chromosomes) from Europe (and peri-Mediterranean) and Western Asia (from Turkey to Iran) are currently considered as *Barbus sensu stricto* (or true *Barbus*) (Berrebi *et al*. 1996). Consequently, Yang *et al*. (2015) proposed placing diploid (2n = c. 50 chromosomes) African small '*Barbus*', or *Barbus sensu lato*, species in the genus *Enteromius*, the oldest available generic synonym. Seven *Enteromius* species have been reported in the YBR region, including *E. atromaculatus* Nichols & Griscom and *E. candens* Nichols & Griscom. Following a diagnostic review of the Smiliogastrinae, two species, formerly assigned to the genus '*Barbus*' and reported in the YBR region, were transferred to the genus *Clypeobarbus* (Stiassny & Sakharova 2016), namely *C. matthesi* Poll & Gosse and *C. pleuropholis* (Boulenger). Finally, hexaploid species (2n = c. 150 chromosomes) have been transferred to the genus *Labeobarbus* (rubberlips) (Vreven *et al*. 2016) with *Varicorhinus* as its junior synonym (Tsigenopoulos *et al*. 2010; Berrebi *et al*. 2014; Yang *et al*. 2015). In the rivers draining the YBR region, *Labeobarbus* is represented by a single species, *L. caudovittatus* (Boulenger).

Danionidae. There are eight species reported to occur in the rivers of the YBR (Table 1). The genus *Barilius* formerly included African and Asian species classified within the family Cyprinidae (Hulot 1950; Poll 1954; Lambert 1961; Gosse 1963; Poll & Gosse 1963). Following the revision by Howes (1980), the African species were transferred to three distinct genera (*Leptocypris*, *Opsaridium*, and *Raiamas*), while the genus *Barilius* was restricted to Asian species (Lévêque & Bigorne 1983). Osteological characters were mainly used to distinguish these genera (Verma *et al*. 2019), which are not always easy to identify based solely on external morphological characters.

Consequently, all five species formerly identified as members of the genus *Barilius* are now reassigned, (i) to the genus *Leptocypris*, as *L. lujae* (Boulenger), *L. weeksii* (Boulenger), and *L. weynsii* (Boulenger); (ii) to the genus *Opsaridium*, as *O. ubangiense* (Pellegrin), a species now recognised to be likely restricted to the Congo Basin (Schmidt *et al*. 2025); and (iii) to the genus *Raiamas*, as *R. christyi* (Boulenger) (see Fricke *et al*. 2026).

Citharinidae. There are three species reported to occur in the rivers of the YBR (Table 1). This family, closely related to Distichodontidae, includes generally large-bodied fishes characterised by a tall body that is strongly compressed laterally. The species now classified in the family Distichodontidae were formerly also included in the family Citharinidae (Poll 1954; Lambert 1961; Gosse 1963; Poll & Gosse 1963). Greenwood *et al*. (1966), however, distinguished Citharinidae from genera and species transferred to the Distichodontidae, based on dentition and the structure of pharyngeal morphology.

Distichodontidae. There are 23 species reported to occur in the rivers of the YBR (Table 1). This former Citharinidae subfamily (Poll 1954; Lambert 1961; Gosse 1963; Poll & Gosse 1963) was elevated to the family rank, following the taxonomic revision of Greenwood *et al*. (1966). Consequently, several species were transferred to this newly recognised family (Greenwood *et al*. 1966).

Alestidae. There are 20 species reported to occur in the rivers of the YBR (Table 1). Species of the Alestidae were formerly classified as Alestinae within the Characidae (Greenwood *et al*. 1966). Members of this family were originally described under several generic names. Subsequently, various authors recognised the existence of distinctive characteristics that allowed several genera to be separated (Paugy 1986). Following these revisions, some generic names changed for certain species. For example, Paugy (1986) examined 22 morphological characters to distinguish between the genera *Alestes* and *Brycinus*. More recently, Stiassny *et al*. (2023), based on phylogenetic analyses, provided strong evidence in favour of restricting the genus *Brycinus* and revalidating the genus *Brachyalestes*. In the YBR region, several species have undergone generic reassignment, including *Alestopetersius compressus* (Poll & Gosse) (formerly known as *Petersius compressus)*, *Brachyalestes imberi* (Peters) (formerly *Alestes imberi*), *Brachypetersius huloti* (Poll) (formerly *Micralestes huloti*), and *Hydrocynus goliath* (Boulenger) (formerly *Hydrocion goliath*) (Gosse 1963; Poll & Gosse 1963; Paugy 1986).

Hepsetidae. There is one species reported to occur in the rivers of the YBR (Table 1). *Hepsetus microlepis* (Boulenger) has previously been considered a junior synonym of the widespread *H. odoe* (Bloch) (Roberts 1984). Previously, *H. odoe* had been classified as a member of the family Characidae (Gosse 1963). Subsequently, the species was reclassified in its own family, Hepsetidae (Nelson 1984; Paugy, 2003). Indeed, *H. odoe* has for long been considered a single species, widely distributed across the African continent (Paugy 2003; Decru *et al*. 2012). However, a comprehensive revision of the genus, showed the existence of six species within the previously monospecific African pike genus *Hepsetus* (Zengeya *et al*. 2011; Decru *et al*. 2012, 2015, 2017). Furthermore, *H. odoe* is no longer recognised as occurring in the Congo Basin, but rather in some eastern basins of West Africa (Decru *et al*. 2012). As a result, the species present in the YBR is now identified as *H. microlepis* (Decru *et al*. 2012, 2015, 2017).

Bagridae. There is one species reported to occur in the rivers of the YBR (Table 1). The taxonomy of Claroteidae has evolved rapidly. Nelson (2006) highlights that the family differs significantly from that described in Nelson (1994). Claroteidae were previously included in the family Bagridae (Gosse 1963). However, their monophyly remains uncertain, as does its phylogenetic relationships with other siluriformes (Nelson 2006).

Clariidae. There are 13 species reported to occur in the rivers of the YBR (Table 1). This airbreathing catfish family is most diverse in African freshwaters. They differ from other Siluriformes in lacking a dorsal spine, possessing long dorsal and anal fins, and an eel-like body (Teugels & Adriaens 2002). Four genera of this family occur in the YBR. Nevertheless, a recent phylogenomic analysis suggests that none of these genera, except *Heterobranchus*, are monophyletic (Bernt *et al*. 2026). Consequently, taxonomic revisions are likely required for several species, including these reposted from the YBR.

Amphiliidae. There are five species reported to occur in the rivers of the YBR (Table 1). This African-endemic family of catfishes is widely distributed across the continent, particularly in fast-flowing and high-altitude rivers. Most species have morphological adaptations that enable them to cling to rocky substrates in rapids (Walsh *et al*. 2000). Within the Amphiliidae, three subfamilies are recognised: Amphiliinae, Doumeinae, and Leptoglaniinae. However, the monophyly of the Amphiliidae has been questioned. He *et al*. (1999) proposed to restrict the family to members of the subfamily Amphiliinae only and transfer the other genera to the family Doumeidae. Thomson (2013) found solid evidence, using multilocus molecular phylogeny and morphological characters, to split the genus *Amphilius* into two genera. *Amphilius* is retained for the species from lowland Africa, while species from upland Africa are recognised as members of the genus *Anoplopterus* (Schmidt *et al*. 2026). Within the genus *Amphilius*, the species name *A. brevis* Boulenger, present in the YBR, is retained as a valid generic and species name.

Malapteruridae. There are four species reported to occur in the rivers of the YBR (Table 1). This family is the only one among Siluriformes whose members possess an electric organ (Teugels 1990). It comprises 19 species in two genera, 16 in *Malapterurus* and three in *Paradoxoglanis* (Carl & Ferraris 2007). Both genera are represented in the YBR region. In previous studies, members of the Malapteruridae family were mainly identified as *M. electricus* (Gmelin) (see Gosse, 1963). However, the research of Norris (2002) clarified the distribution of species in this family and led to the description of *Paradoxoglanis parvus* Norris, including, at least, a single specimen originating from the Boonde River in the YBR (RBINS 10225) (Norris 2002: 128).

Mochokidae. There are 16 species reported to occur in the rivers of the YBR (Table 1). The family Mochokidae is the most diverse of African catfishes and currently comprises nine genera and 230 valid species (Fricke *et al*. 2026). Three genera have been reported from the YBR, including *Acanthocleithron*, *Microsynodontis*, and *Synodontis*. Recent studies suggest that this family is closely related to a clade comprising Auchenoglanididae, Claroteidae, Malapteruridae, and Schilbeidae (Schedel *et al*. 2022). Day *et al.* (2023: fig. 3) reported an exceptional level of cryptic diversity within this family including in *Microsynodontis* and *Synodontis*.

Auchenoglanididae. Historically, members of this family were included in Bagridae (see Gosse 1963), then assigned to the Claroteidae (see Risch 2003) as a subfamily. Subsequently, the former subfamily Auchenoglanidinae was elevated to the rank of a distinct family, Auchenoglanididae (Schedel *et al*. 2022). Currently, this family comprises three genera and 30 valid species (Fricke *et al*. 2026). According to available data, the rivers from the YBR are home to two of these genera, *Auchenoglanis* and *Parauchenoglanis*. There are three species reported to occur in the rivers of the YBR (Table 1). Recent studies have restricted the distribution of *P. balayi* (Sauvage) to the lower Guinea and suggested the existence of undescribed lineages within *P. punctatus* (Boulenger) (Sithole *et al.* 2023). Accordingly, specimens reported as *P. balayi* from the YRB are here retained as *P.* cf. *punctatus* (Table 1) pending a comprehensive taxomonic revision of this species complex.

Claroteidae. There are five species reported to occur in the rivers of the YBR (Table 1). Claroteidae are catfishes (Siluriformes) characterised by the presence of two to four pairs of barbels, well-developed pectoral spines, a moderately or strongly developed adipose fin, and a moderately developed anal fin (Geerinckx *et al*. 2007). Initially, the Claroteidae were considered a subfamily of the Bagridae, called Auchenoglanidinae (De Pinna 1998), and included species endemic to Africa (Nelson 2006). The Claroteidae family is recognised by Mo (1991) as a monophyletic group alongside the Bagridae based on anatomical data. He distinguishes two subfamilies: the Claroteinae and the Auchenogladinae. Species currently classified in the Claroteidae family were previously classified in the Bagridae family (Hulot 1950; Poll 1954; Gosse 1963; Poll & Gosse 1963).

Schilbeidae. The Schilbeidae (catfish family) are found in Africa and Asia. A taxonomic review of African species was presented by De Vos (1995). In Africa, five genera are currently recognized: *Irvineia*, *Parailia*, *Pareutropius*, *Schilbe*, and *Siluranodon*. According to the available literature, only three genera are currently reported from the rivers of the YBR: *Parailia*, *Pareutropius*, and *Schilbe*. There are seven species reported to occur in the rivers of the YBR (Table 1). Following successive taxonomic revisions, the generic names of some species have been changed. Within the YBR, the species *Schilbe grenfelli* (Boulenger), *S. laticeps* (Boulenger), and *S. yangambianus* (Poll) were formerly assigned to the genus *Eutropius* (Poll 1954; Gosse 1963); while instead *Pareutropius debauwi* (Boulenger) was formerly assigned to the genus *Eutropiellus* (Fricke *et al*. 2026; Froese & Pauly 2026).

Butidae. The Butidae are gobies belonging to the order Gobiiformes (Froese & Pauly 2026). Historically, this family was classified as a subfamily of Eleotridae (Gosse 1963). However, Nelson *et al*. (2016) recognises Butidae as a separate family. Molecular phylogenetic analyses have shown that Butidae are a sister clade to the Gobiidae and Gobionellidae families, and that the Eleotridae are a sister clade to these two clades. This means that the Eleotridae as previously classified were paraphyletic and that their respective subfamilies should be elevated to family rank (Thacker 2011). Within the rivers of the YBR, this family is represented by only one species in the genus *Kribia* (Table 1).

Mastacembelidae. Mastacembelidae is a family of Synbranchiformes, commonly known as spiny eels and widely distributed in tropical and subtropical regions from Africa and the middle East to Southeast Asia and China (Vreven 2007). Mastacembelidae are found in a wide range of aquatic environments, including stagnant waters and rivers, even in rapids (Vreven 2005; 2007). Only the genus *Mastacembelus* is present in the rivers of the YBR, with two species (Table 1).

Anabantidae. Anabantidae is a family of freshwater fishes in the order Anabantiformes, widely distributed across Southeast Asia and Africa (Norris 2007; Froese & Pauly 2026). The family currently comprises four genera and 33 species (Fricke *et al*. 2026), 10 of which are known from the rivers of the YBR (Table 1). Historically, this family was placed within Perciformes (Norris 1994), before being reassigned to the Anabantiformes.

Channidae. The Channidae (formerly Ophicephalidae) are a family of freshwater fish found in Africa and Asia (Gosse 1963; Poll & Gosse 1963; Teugels *et al*. 1986). The correct generic assignment of species previously placed in the genus *Ophicephalus*, often misspelled as *Ophiocephalus* (see Fricke *et al*. 2026), is now *Channa* as the first is a junior synonym of the last. Further, as the type species of the family is currently assigned to the genus *Channa*, the name of the family has been revised accordingly, and is presently Channidae (see Fricke *et al*. 2026). Nowadays, there are two species reported to occur in the rivers of the YBR (Table 1). According to the above cited taxonomic revisions, *Parachanna insignis* (Sauvage) and *P. obscura* (Günther) are now placed within the family Channidae (Bonou & Teugels 1985; Teugels *et al*. 1986).

Latidae. The family Latidae belongs to the order Carangiformes (Froese & Pauly 2026). It comprises three genera divided into 14 species (Fricke *et al*. 2026). Historically, this group was classified in the subfamily Latinae within the Centropomidae (Gosse 1963). It was elevated to family rank in 2004 after a cladistic analysis showed that the original Centropomidae were paraphyletic (Otero 2004). At present, there is only a single species, *Lates niloticus* (Linnaeus), reported to occur in the rivers of the YBR (Table 1).

Nothobranchiidae. The Nothobranchiidae constitutes a fish family in the order Cyprinodontiformes. It was recognised as a distinct family by Nelson (2006). Earlier, species now assigned to Nothobranchiidae were included in Cyprinodontidae (Gosse 1963) before being transferred to the family Aplocheilidae. There are four species reported to occur in the rivers of the YBR (Table 1).

Procatopodidae. Procatopodidae, or African lampeyes, is a family in the order Cyprinodontiformes (Froese & Pauly 2026). Historically, this group was included in the family Cyprinodontidae (Gosse 1963), before later being treated as a subfamily (Procatopodinae) within the Poecilidae. Recent studies have shown that this classification was paraphyletic, with Procatopodidae representing a distinct family separate from Poecilidae. Furthermore, the Aplocheilichthyinae, formerly treated as a subfamily of Poecilidae, belong to Procatopodidae. This family is thought to be the sister group to the clade comprising Aphaniidae and Valenciidae (Bragança & Costa 2019; Fricke *et al*. 2026). At present, there are two species reported to occur in the rivers of the YBR (Table 1).

Cichlidae. Cichlidae is a family of fishes in the order Cichliformes (Froese & Pauly 2026), comprising 258 genera and 1768 species (Fricke *et al*. 2026). Members of the family occur in the lowlands of tropical and subtropical regions of South America, Central America, Africa, Madagascar, the Middle East, and the southern coasts of India and Sri Lanka (Stiassny *et al*. 2007). The taxonomic classification of Cichlidae has long been debated. Historically, based on morphological characteristics, Cichlidae were classified in Perciformes (Stiassny & Jensen 1987). Molecular phylogenetic studies, however, support the recognition of a distinct order, Cichliformes (Wainwright *et al*. 2012). Several species reported from the YBR have also been reassigned to different genera, including *Congochromis squamiceps* (Boulenger) (formerly known as *Nanochromis squamiceps*), *Coptodon congica* (Poll & Thys van den Audenaerde) (formerly *Tilapia congica*), *C. zillii* (Gervais) (formerly *T. zilii*), *Rubricatochromis stellifer* (Loiselle) (formerly *Hemichromis stellifer*) (Stiassny & Schliewen 2007; Dunz & Schliewen 2013; Lomboj & Koblmuller 2022). At present, 14 species are reported to occur in the rivers of the YBR (Table 1).

Tetraodontidae. The Tetraodontidae is a family of marine and freshwater fish belonging to the order Tetraodontiformes (Froese & Pauly 2026). They are widely distributed throughout the world, mainly in marine environments, although some species also frequent freshwater and brackish waters (Schelly & de Carvalho 2007). The family currently comprises 27 genera and 193 species (Fricke *et al*. 2026). Its members are notable for their ability to rapidly inflate into a spherical shape when threatened (Schelly & de Carvalho 2007), a particularly characteristic defence mechanism. According to the available scientific literature and reports, two species are present in the rivers of YBR (Table 1).

Protopteridae. This is the only family of the lobe-finned fishes (Orlov *et al*. 2015) present in the YBR. It is restricted to four African species of lungfish belonging to the order Ceratodontiformes (Froese & Pauly 2026). The subclass Dipneusta forms a group of primitive fish. Currently, this group comprises three families: Lepidosirenidae distributed in South America, Neoceratodontidae in Australia, and Protopteridae in Africa (Fricke *et al*. 2026). The African Protopteridae family comprises only a single genus. According to the scientific literature and reports, two species are present in the rivers of the YBR (Table 1).

Discussion

A literature update on the ichthyofauna of the YBR

The current species list was compiled based on a thorough review of the scientific literature and reports on the fish species reported to occur in the rivers draining the YBR. It provides a total of 224 native and three introduced species for the reserve. More than 50% of the species recorded belong to only six native families (out of 30: 20.0%). This reveals a high concentration of reported species within a small number of families (see Table 1). In contrast, seven native families (out of 30: 23.3%), and one introduced family (Araipamidae: see Table 1) are each represented by only one species. Some of the species shown in Figure 3 were selected to be illustrated based on one of the following reasons: (i) species recently described based on specimens from rivers draining the YBR; (ii) species added since Gosse's first checklist (1963); (iii) species that have undergone systematic revisions; (iv) species classified as DD for over a century; and (v) endemic species with a very restricted distribution within the YBR.

The first reference list to the fish species occurring in the YBR (Gosse 1963) included a total of 200 native and one introduced species. To date, the ichthyofauna of the rivers draining the reserve includes 22 additional native species and two more introduced ones. These include new species, originally described from waters draining the reserve. Examples comprise *Petrocephalus boboto* Lavoué & Sullivan (Figure 3A), described from the middle Congo River

near Yangambi (Lavoué & Sullivan 2014), and *Marcusenius verheyenorum* Mambo, Kisekelwa, Danadu, Decru & Vreven (Figure 3B), reported from the Lilanda River (Mambo *et al*. 2020). Another species, *Distichodus teugelsi* Mamonekene & Vreven (Figure 3C), has been formally described, based on specimens collected from the Léfini Basin (Republic of the Congo) and a single paratype from Yangambi in the YBR (DRC) (Mamonekene & Vreven 2008: 99). Finally, other species, sometimes originally described even from outside the YBR itself, have been discovered through intensive sampling efforts in the various rivers draining the reserve. This is true for *Enteromius miolepis* (Boulenger) (Figure 3D), *Clarias pachynema* Boulenger, *Schilbe intermedius* Rüppell, and *Aphyosemion castaneum* Myers (Figure 3E).

IUCN Red List assessments of the ichtyofauna of the YBR

Our compilation of the YBR species diversity revealed that the listed species are all included in IUCN Red List assessments and this under three different status categories: (i) Not Evaluated (NE), nine species (out of 224, 4.5%); (ii) Data Deficient (DD), seven species (3.1%); and (iii) Least Concern (LC), 208 species (92.9%). No fish species listed as present in the YBR is currently classified as Vulnerable (VU), Endangered (EN), or Critically Endangered (CR).

Although described over 120 and over 60 years ago, respectively, *Ctenopoma pellegrini* (Boulenger) and *Hylopanchax silvestris* (Poll & Lambert) are still listed as NE. In addition, five other species, all originally described in 2000 or later, such as *D. teugelsi*, *M. monsembeensis* Roberts, *M. verheyenorum*, *P. arnegardi* Lavoué & Sullivan, and *P. boboto*, also remain classified as NE. Finally, two more species, *H. microlepis* (Figure 3F) and *M. lambouri* (Figure 3G), which have recently been revalidated following a systematic revision (Decru *et al*. 2015; Mambo *et al.* 2020) are also listed as NE. *Hepsetus microlepis*, originally described as a subspecies of *H. odoe microlepis* by Boulenger (1901) and synonymised with *H. odoe* by Roberts (1984), was later on elevated to species rank following a taxonomic revision of the *Hepsetus* of the Congo Basin (Decru *et al*. 2015). At present, *H. microlepis* remains classified as NE, because it is still considered a junior synonym of *H. odoe*. Furthermore, *Marcusenius lambouri* was also considered a junior synonym of *M. moori* (Boden *et al.* 1997), before being revalidated following studies conducted during the description of *M. verheyenorum* (Mambo *et al*. 2020). Nevertheless, according to the latest IUCN Red List assessment (Moelants 2010), *M. lambouri* was still treated as a junior synonym of *M. moorii*, a species classified as LC. We hope that in future IUCN Red List assessments, these species will be recognised as valid species and assessed as such.

Moreover, in the YBR, seven species (out of 224, 3.1%) were classified as DD. Among these, three species, *Enteromius tetrastigma* Boulenger, *Epiplatys multifasciatus* (Boulenger) (Figure 3H), and *Pelmatochromis ocellifer* Boulenger (Figure 3I), although described more than a century ago, remain in this category. Regarding, *P. ocellifer*, the data concerning it are currently unreliable and require further studies (Ulrich Schliewen, pers. comm. 2026). Conversely, four species, namely *C. gossei* Poll, *E. pygmaeus* Poll & Gosse, *L. reidi* Tshibwabwa, and *M. lamberti* Poll & Gosse (Figure 3J), were described more recently, between 25 and 60 years ago. Nevertheless, it should be noted that *Microsynodontis lamberti*, a mochokid catfish species known only from its type locality and endemic to the Lilanda River subbasin within the YBR (Froese & Pauly 2026), requires a thorough reassessment of its status. Indeed, species classified as DD correspond to taxa for which assessors have not been able to determine the risk of extinction (IUCN 2022). However, this category can include genuinely threatened species (Bland *et al*. 2015; Borgelt *et al*. 2022), which may be excluded from legislative frameworks and conservation policies, as these generally only target species officially recognised as threatened (Cazalis *et al*. 2023). This seems true for *M. lamberti* considering the anthropogenic impacts observed for the Lilanda River (Mayo, pers. obs. 2014–2025).

Two hundred and eight species (out of 224, 92.9%) were categorised as LC. This large number might suggest that most are not threatened. However, this impression is misleading, as several regional and continental studies have revealed that fish are among the most threatened freshwater species groups (Hughes *et al*. 2025). Of the approximately 15,000 freshwater fish species, about 25% are threatened with extinction (Sayer *et al*. 2025). In Africa, 26% of the known freshwater fish species are threatened with extinction, and this figure could be even higher (Hughes *et al*. 2025). Other studies have highlighted the vulnerability of certain local fish species, particularly those belonging to the families Mormyridae, Cyprinidae, Nothobranchiidae and Cichlidae, to increasing anthropogenic pressures. These include habitat degradation due to agriculture practices along rivers and the intensive use of ecopage fishery as a fishing method, the use of ichthyotoxic plants such as *Tephrosia vogelii* Hook and *Millettia duchesnei* De Wild (Fabaceae) as fish poison, as well as overfishing (Nyboer *et al*. 2019; Mambo *et al*. 2020; Mayo *et al*. 2024).

Furthermore, based on the currently available knowledge of the rivers of the YBR, we suggest that certain species, *Congothrissa gossei* (DD), *Enteromius pygmaeus* (DD), *Labeo reidi* (DD), and *Microsynodontis lamberti* (DD), should be subject to a reassessment of their IUCN red list conservation status. In particular, *C. gossei* seems to be threatened by overfishing and the degradation of its habitat in the rivers of the YBR. In addition, *E. pygmaeus* and *L. reidi* have not been observed during more than ten years of intensive sampling carried out in the rivers draining the reserve (Mayo, pers. obs. 2014–2025). This prolonged lack of capture raises concerns about the current status of their local populations and justifies a reassessment of their conservation status. Given their very restricted range and the threats to their habitats, these species might well needed to be reclassified into a higher threat category.

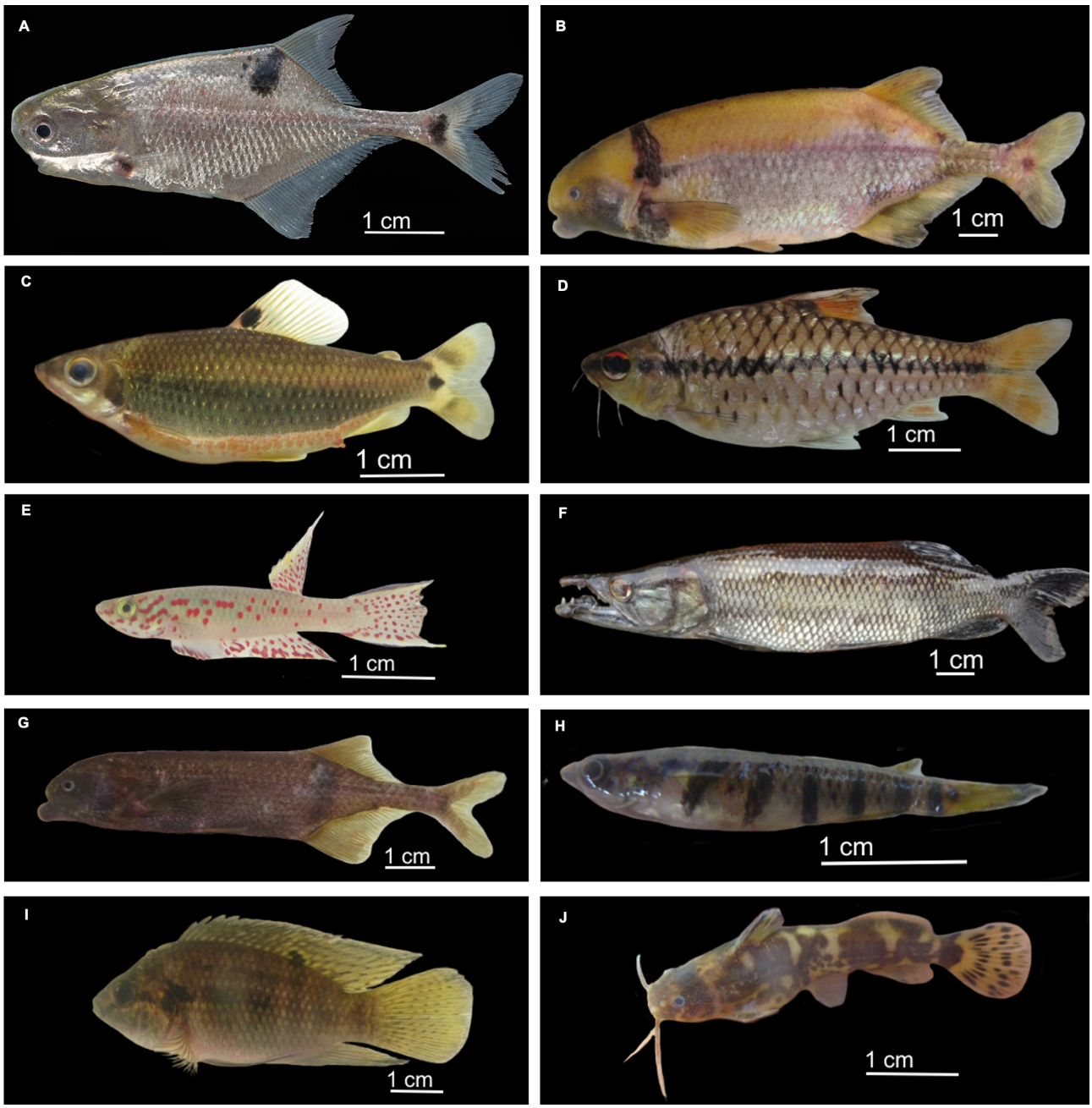


FIGURE 3. Some representative species of the fish families present in the Yangambi Biosphere Reserve (YBR), as well as their specific IUCN Red List status. A. *Petrocephalus boboto* (holotype, CUMV 96774) (IUCN Red List: NE = Not Evaluated); B. *Marcusenius verheyenorum* (holotype, MRAC 2015-040-P 0020) (NE); C. *Distichodus teugelsi* (NE); D. *Enteromius miolepis* (LC = Least Concern); E. *Aphyosemion castaneum* (LC); F. *Hepsetus microlepis* (NE); *G. Marcusenius lambouri* (MRAC 2016 040-P-0027) (NE); *H. Epiplatys multifasciatus* (DD = Data Deficient); I. *Pelmatochromis ocellifer* (DD); and J. *Microsynodontis lamberti* (DD, Endemic to the YBR).

Conclusions

To date, most studies on the ichthyofauna of this biosphere reserve have focused on the Congo River and some of its affluents. The results of the present study highlight an increase in the species richness of the ichthyofauna present in the YBR. They also reveal high species diversity in the upper stretch of the middle Congo River, followed by that of, its largest YBR affluent, the Lobilo River. Instead, the Lusambila and Isalowe rivers, two small-sized right bank affluents, show relatively low species richness. Most of the species assessed according to the IUCN Red List were classified as LC. Indeed, although no species are currently classified as Vulnerable, Endangered, or Critically Endangered, several persistent threats affect the fish fauna of the rivers draining the YBR. It is therefore urgent to obtain more data on the current distribution and ecology/biology of species present in the YBR as to update the available IUCN Red List assessments for these species, in particular, and for those of the middle Congo Basin, in general. Finally, we hope that the results of this literature review will contribute to incite and further enhance the study of the fish species diversity of the rivers draining the YBR and the conservation/protection of their aquatic homes, being the freshwater ecosystems of the region.

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Authors contributions

W.M.I. and T.M.B. were responsible for the study design, documentation research (library consultations), data mining, and writing of the first draft of the manuscript and its subsequent revisions. L.M.C., T.L.D.L., P.N.B. and E.V. contributed to the improvement of the various versions of the manuscript. O.M.K. and C.D.M. co-supervised the entire research project and provided critical comments on the successive versions of the manuscript. E.V. supervised the fieldwork, documentation research, and data mining, and provided critical comments to the different draft versions of the manuscript.

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