Fishes of the Mfimi River in the central Congo basin of the Democratic Republic of Congo. Kasai ecoregion or part of the Cuvette Centrale?

Melanie L. J. Stiassny¹,³, S. Elizabeth Alter¹,², Tobit L.D. Liyandja¹,³,⁴, Myriam Y. Modimo⁴, Raoul J. C. Monsembula Iyaba*⁴

¹ Department of Ichthyology, American Museum of Natural History, New York, USA • MLJS: mljs@amnh.org • https://orcid.org/0000-0001-8220-4768  • TLDL: liyandja@gmail.com • https://orcid.org/0000-0002-7610-7037
² Biology & Chemistry Department, California State University, Monterey Bay, USA • SEA: ealter@csumb.edu • https://orcid.org/0000-0003-0597-9206
³ Richard Gilder Graduate School, American Museum of Natural History, New York, USA
⁴ Department of Biology, University of Kinshasa, Kinshasa, Democratic Republic of Congo • MYM: yokomyria@gmail.com • RJMI: raoul monsembula@yahoo.fr • https://orcid.org/0000-0001-5757-0563
* Corresponding author

Abstract
Despite the cultural and economic importance of fisheries to communities in the region, the Mfimi is one of the least well-documented river systems in the central Congo basin. Here we present a preliminary listing of species collected during two surveys sampling 35 sites along the main channel, in major tributaries, and in some marginal habitats. A total of 2195 specimens representing 141 species were collected and archived at the American Museum of Natural History, New York, and in the teaching collections of the University of Kinshasa. Five species are considered as potentially new to science, and range extensions of numerous species into the Mfimi are recorded. Based on the data presented we conclude that the fish communities in the Mfimi share affinities with those of the Cuvette Centrale to the north, rather than the Kasai basin with which the river is currently connected via an inflow at the Kwa-Kasai junction.

Keywords
Central Africa, fish diversity, biogeographic affinities

Introduction
Due to its current connection with the Kwa-Kasai, the Mfimi/Lukenie River (Fig. 1) is considered part of the large southern Kasai basin rather than of the adjacent Cuvette Centrale located to the north (Thieme et al. 2005; Abell et al. 2008; Brummett et al. 2011). Fishing is the primary economic activity throughout the region providing the main source of protein for local communities, as well as income through sales to the major regional population centers of Kinshasa, Bandundu and Kikwit. The Inspectorate of Agriculture (CARG 2010)
Check List 17 (6)

reports a production of about 180 t of fresh, 42 t of smoked, and 72 t of dried fish captured by over 2000 fishers throughout the region each year. Surprisingly, given such heavy reliance on fishing, this is among the least well-documented parts of the entire Congo basin (Thieme et al. 2005). No ichthyological publications exist for the Mfimi (or Lukenie, or Lake Mai Ndombe), and its species composition is so poorly documented that hypotheses of the affinities of its ichthyofauna, and consequently that of the central Congo’s largest lake, Lake Mai Ndombe, remain speculative (Thieme et al. 2005). To remediate this near-total lack of information we provide a list of fishes collected during two surveys in the Mfimi basin, made during August 2015 and July 2018, at the height of the main dry season. Collections were focused on 29 sites spanning the main channel and tributaries from downstream of the riverside settlement of Nioki to the town of Kutu at the outflow of Lake Mai Ndombe, upstream of which the river is renamed the Lukenie. Where possible, given limited road access across the region, six collections were also made in three small, forested tributaries, in an attempt at sampling a range of habitats within the basin (Figs. 1, 2). The surveyed area is situated at about 300 m above sea level, with a more-or-less continuous low relief cut by numerous meandering tributaries of the Mfimi main channel, often with extensive seasonally flooded, or permanently inundated, riparian zones, grassy wetlands, and shallow lakes. The climate is humid and tropical, with a main dry (mid-May through August) and rainy season (September through mid-January), and an annual temperature ranging from 25–30 °C.

The list we provide here is undoubtedly incomplete and much additional collecting, particularly in marginal habitats, remains to be undertaken. However, given the current paucity of information on the fishes of this system, we hope that this checklist will serve as a useful baseline for ongoing efforts to fully document the composition and biogeographical affinities of the fishes of the Mfimi-Lukenie River basin and its affluent lake, Mai Ndombe.

Study Area

Our survey includes collections made at 35 sites which, for convenience of representation, are grouped into eight broadly defined hydrological regions within the Mfimi basin (Figs. 1, 2, Table 1). These are: Group 1, 11 sites along the main channel of the Mfimi River from downstream of Nioki to the settlement of Kutu at the outflow of Lake Mai Ndombe, just upstream of which the river is renamed the Lukenie; Group 2, eight sites along the Molibampe River (appearing as the Montaba River on some maps), a large right bank tributary entering the Mfimi near the fishing village of Kilako; Group 3, three sites along the Tshe River, the first large right bank tributary of the Mfimi upstream of Nioki. Although considerably smaller than the Molibampe, the Tshe also has a variable channel width, as it meanders through numerous expanses of flooded grasses; Group 4, three sites in Vainya Lake. This shallow, grass fringed lake is approximately 1 km in length, and located about 3 km due west of Nioki ; Group 5, four sites along the Lomomo River, a small right bank tributary entering the Mfimi near the fishing village of Kilako; Group 6, two sites in Mingomi stream, a small forested, blackwater stream near Ngenza Village some 12 km, by road, northwest of Nioki; Group

Figure 1. Map of sampled region with stars indicating individual sites within eight color coded regions: Group 1 (yellow), Mfimi River main channel. Group 2 (red), Molibampe River. Group 3 (light blue), Tshe River. Group 4 (orange), Vainya Lake. Group 5 (green), Lomomo River. Group 6 (purple), Mingomi stream. Group 7 (blue), Munganza River. Group 8 (pink), Ndzaa River. Inset on left indicates the location of the collection sites within the Congo basin.
Figure 2. Selected collection sites, representing each of the eight delimited regions. A. Mfimi main channel near Mongobele Bondjon (Group 1). B. Molibampe River, wide channel through dense grasses (Group 2). C. Tshe River, near confluence with Mfimi (Group 3). D. Vainya Lake (Group 4). E. Lomomo River, near Kilako Village (Group 5). F. Mingomi stream, near Ngenza Village (Group 6). G. Munganza River, near Mongobele Mbongo Village (Group 7). H. Ndzaa River, near Mushimine Village (Group 8).
7, two sites along the Munganza River, a small, forested, left bank tributary, downstream of Mongobele Village; Group 8, two sites in the Ndzaa River (appearing as the Ndjua River on some maps), a forested, left bank tributary entering the Mfimi near Kutu. Many of these collections were made with the assistance of local fishers using traditional fishing gear (Fig. 3). Additional samples were purchased at the two main fish markets in Nioki and are noted as such in Table 2. All collections were made during August 2015 and July 2018 at the height of the main dry season in the region (mid-May to the end of August). There are very few roads in the entire basin and access to all sites, except the Mingomi stream (which was accessed by motorbike), was by water in motorized, or paddled, wooden pirogues (canoes).

Methods

Standard fishing sampling techniques were employed (Lang and Baldwin 1996), and these included dip nets, cast nets, seine nets, and some traditional fishing gear (Fig. 3). In isolated locations, with permission, the controlled use of the isoflavone ichthyocide Rotenone, was employed to sample species not readily captured using other methods (Robertson and Smith-Vaniz 2008). Fishes were euthanized in accordance with recommended guidelines for use of fishes in research (Bennett et al. 2016). Prior to preservation a small piece of muscle or fin was taken from the right side of one or more representative of each species, or entire fishes were preserved in 95% ethanol. Fishes and tissues are housed in the Ichthyology Department of the American Museum of Natural History (AMNH), New York, with associated data accessible at https://emu-prod.amnh.org/db/emuwebamnh/index.php. A representative collection was also accessioned into the ichthyological teaching collections of the University of Kinshasa. All species identifications were made at the AMNH utilizing a combination of the publications cited in the references section of this paper. In addition, the following two online resources were consulted: http://mormyrids.myspecies.info/en/taxonomy/term/430 and http://www.poissons-africque.ird.fr/drupal/alestidae (Paugy et al. 2019). Photographs of representatives of each species post-preservation were taken in an Ortech

Table 1. Coordinates and data for sampled sites within hydrological groupings 1–8.

<table>
<thead>
<tr>
<th>Group</th>
<th>Site coordinates</th>
<th>River type</th>
<th>Approximate channel width at site</th>
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<tbody>
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<td>1 - Main channel of Mfimi River</td>
<td>02°44.35.49″S, 017°42.25.22″E</td>
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<td>540 m</td>
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<td>500 m</td>
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<td>02°43.26.30″S, 017°44.49.45″E</td>
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<td>02°43.20.88″S, 017°51.35.28″E</td>
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<td>530 m</td>
</tr>
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</tr>
<tr>
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<td>450 m</td>
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<td>2 - Molubambe River</td>
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<td>390 m</td>
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<td>Large, right bank tributary</td>
<td>31 m</td>
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<td>Large, right bank tributary</td>
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<td>2 - Molubambe River</td>
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<td>2 - Molubambe River</td>
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<td>Large, right bank tributary</td>
<td>70 m</td>
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<td>45 m</td>
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<td>125 m</td>
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<td>3 - Tshe River</td>
<td>02°44.39.09″S, 017°42.40.76″E</td>
<td>Medium size, right bank tributary</td>
<td>140 m</td>
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<td>3 - Tshe River</td>
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<td>Medium size, right bank tributary</td>
<td>70 m</td>
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<tr>
<td>3 - Tshe River</td>
<td>02°45.05.44″S, 017°48.30.30″E</td>
<td>Medium size, right bank tributary</td>
<td>160 m</td>
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<td>4 - Vinya Lake</td>
<td>02°41.54.31″S, 017°38.06.39″E</td>
<td>Shallow lake</td>
<td>1 km at longest point</td>
</tr>
<tr>
<td>4 - Vinya Lake</td>
<td>02°41.10.35″S, 017°38.35.96″E</td>
<td>Shallow lake</td>
<td>1 km at longest point</td>
</tr>
<tr>
<td>4 - Vinya Lake</td>
<td>02°41.13.25″S, 017°38.31.50″E</td>
<td>Shallow lake</td>
<td>1 km at longest point</td>
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<td>5 - Lomomo River</td>
<td>02°46.19.74″S, 017°55.55.80″E</td>
<td>Small, right bank tributary</td>
<td>40 m</td>
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<td>5 - Lomomo River</td>
<td>02°46.14.94″S, 017°55.58.03″E</td>
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<td>60 m</td>
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<td>5 - Lomomo River</td>
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<td>Small, right bank tributary</td>
<td>60 m</td>
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<td>5 - Lomomo River</td>
<td>02°46.16.20″S, 017°56.6.66″E</td>
<td>Small, right bank tributary</td>
<td>30 m</td>
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<td>6 - Mingomi Stream</td>
<td>02°49.45.29″S, 017°39.16.48″E</td>
<td>Small, forested stream</td>
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<td>6 - Mingomi Stream</td>
<td>02°49.45.96″S, 017°39.16.34″E</td>
<td>Small, forested stream</td>
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<td>7 - Munganza River</td>
<td>02°47.58.36″S, 017°51.51.32″E</td>
<td>Small, forested left bank tributary</td>
<td>2 m</td>
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<td>7 - Munganza River</td>
<td>02°47.59.64″S, 017°51.50.70″E</td>
<td>Small, forested left bank tributary</td>
<td>1 m</td>
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<td>8 - Ndzaa River</td>
<td>02°58.25.65″S, 018°73.55.19″E</td>
<td>Small, forested left bank tributary</td>
<td>2 m</td>
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<tr>
<td>8 - Ndzaa River</td>
<td>02°58.25.08″S, 018°73.55.26″E</td>
<td>Small, forested left bank tributary</td>
<td>3 m</td>
</tr>
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</table>
Professional Photobox Plus (Model 1419) with a Nikon D200 camera with a 60 mm f/2.8 AFMicro-Nikkor lens, with a 1 cm scale in field. With a few modifications noted in the results section, taxonomic nomenclature and classification follows Eschmeyer’s Catalogue of Fishes (Fricke et al. 2021). Specimens were collected and exported with permission of the Congolese Ministère de l’Agriculture, Secrétariat General à l’Agriculture, Pêche et Elevage, Direction des Pêches (permits 037/DP/SG/AGRIPEL/2016 and 03/DP/SG/PEL/2018, both on file at AMNH).

Results

We sampled 35 sites and for ease of representation these are grouped into eight hydrological regions (Fig. 1, Table 1), and collected a total of 2195 specimens comprising 141 species in 25 families and 13 orders. Five species in the collection are considered as potentially new to science, and these are discussed first in the text below and illustrated in Figure 4. Due to the high number of species collected in the surveyed region we limit information on identification to a representative of each of the 69 genera represented in the collection but for a few, where taxonomic issues necessitate, we include discussion of more than one congener. A full list of species with their distribution among sites is indicated in columns 1–8 and in column 9 for specimens purchased at local markets (Table 2).

Undescribed Taxa

Mormyridae

Marcusenius aff. angolensis (Boulenger, 1905)

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River at Mabala; 02°42′14.90″S, 017°42′50.44″E; VIII.2015; Monsembula et al. leg.; 1, 140.5 mm, AMNH 269816 • 1, 140.5 mm; Lomomo River, near confluence with Mfimi; 02°45′19.74″S, 017°55′55.80″E; 25.VII.2018; Stiassny et al. leg.; 1, 140.5 mm, AMNH 274038.

Identification. Bulbous submental appendage present and extending beyond the end of the upper jaw. Twelve circumpeduncular scale rows. In a revision of the Marcusenius macrolepidotus species complex in southern and eastern Africa, Kramer et al. (2007) restricted M. macrolepidotus to specimens from the lower Zambezi River system in Mozambique and described or resurrected several species for populations in other southern and eastern rivers. They provided a key to the eastern and southern species and included Marcusenius angolensis, currently known only from the Cuanza system in Angola. Our specimens, and additional specimens from the western Congo basin, appear closest to M. angolensis (dorsal-fin rays 26–28, anal-fin rays 32–33 vs. 20–26 and 26–31 in M. macrolepidotus and other southern and eastern African species), but they appear to differ in several
Table 2. List of species from the Mfimi River basin, organized by taxonomic group (following Fricke et al. 2021). Species in bold underscore are known also to occur in localities in the Cuvette Centrale and/or the main channel of the Congo River but are not reported from the Kasai basin. Samples collected at grouped sites in columns 1–8, and market specimens in column 9. Representative catalogue numbers are given in column 10.

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<th>GP4</th>
<th>GP5</th>
<th>GP6</th>
<th>GP7</th>
<th>GP8</th>
<th>Market</th>
<th>Representative Vouchers (AMNH)</th>
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Ctenopoma nigropannosum Reichenow 1875
Ctenopoma ovodatum Pellegrin 1899
Ctenopoma weekly Boulenger 1896
Microctenopoma ansorgii (Boulenger 1912)
Microctenopoma congicum (Boulenger 1887)
Microctenopoma ocellatum Pellegrin 1899
Microctenopoma weeksii Boulenger 1896
Microctenopoma nanum

Cichlidae
Ctenopoma nigropannosum Reichenow 1875
Ctenopoma ovodatum Pellegrin 1899
Ctenopoma weekly Boulenger 1896
Microctenopoma ansorgii (Boulenger 1912)
Microctenopoma congicum (Boulenger 1887)
Microctenopoma ocellatum Pellegrin 1899
Microctenopoma weeksii Boulenger 1896
Microctenopoma nanum

Channidae
Parachanna insignis (Sauvage 1884)
Parachanna obscura (Günther 1861)

CICHLIFORMES
Cichlidae
Congochromis dimidiatus (Pellegrin 1900)
Congochromis sabinei (Lambou 2005)
Coptodon congica (Poll & Thys van den Audenaerde 1960)
Hemichromis elongatus (Guichenot 1861)
Hemichromis bifilis Loseille 1979
Nanochromis cf. nudiceps (Boulenger 1899)
Nanochromis transversatus Stewart & Roberts 1984
Pelmatochromis nigrofasciatus (Pellegrin 1900)
Pterochromis congicus (Boulenger 1897)
Sarotherodon galilaeus boulengeri (Pellegrin 1903)
Tylochromis pulcher Stiassny 1989

CYPRINODONTIFORMES
Nothobranchiidae
Aphyosemion cognatum Meinkin 1951
Epiplatys chevalieri (Pellegrin 1904)
Epiplatys multifasciatus (Boulenger 1913)
Procatopodidae
Congochromis brichardi Poll 1971
TETRAODONTIFORMES
Tetraodon maculatus Boulenger 1902

squamation and pigmentation characteristics. The central and western Congolese specimens currently identified here as M. aff. angolensis are clearly in need of revisional attention.

Alestidae

Phenacogrammus new species 1
Figure 4B
Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58'25.08"S, 018°07'55.26"E; 25.VII.2018; Stiassny et al. leg.; 8, 42.3–45.1 mm, AMNH 274785.
Identification. Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, two symphycal teeth form inner tooth on the dantary. Outer premaxillary teeth (4) alternating with placement of inner tooth row, lateral line incomplete. It differs from the nine described Phenacogrammus species in the possession of a characteristic pigmentation patterning consisting of a series of “zig-zag” markings along the longitudinal scale rows and a combination of meristic features. Additionally, among Phenacogrammus the taxon shares with P. new species 2 (below) and their Congolese congener, P. dehenyi, a derived expansion of the first pleural rib, a feature lacking in all other Phenacogrammus species. This taxon is currently being formally described (Stiassny et al. in press).

Phenacogrammus new species 2
Figure 4C
Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near
Mushimine Village; 02°58'25.08"S, 018°07'55.26"E; 25. VII.2018; Stiassny et al. leg.; 5, 34.3–44.1 mm, AMNH 274786.

**Identification.** Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, two symphyseal conical teeth form inner tooth on the dentary. Outer premaxillary teeth (4) alternating with placement of inner tooth row, lateral line incomplete. It differs from the nine described *Phenacogrammus* in the absence of a dominant pigmentation patterning and a combination of meristic features. Additionally, among *Phenacogrammus* the taxon shares with

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P. new species 1 (above) and their Congolese congener, P. dehenyi, a derived expansion of the first pleural rib, a feature lacking in all other Phencogogrammus species. This taxon is currently being formally described (Stiassny et al. in press).

Cyprinidae

*Enteromius aff. hulstaerti* (Poll, 1945)

**Figure 4D**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • River Munganza near Mongobele Mbongo Village; 02°47′58.26″S, 017°51′ 51.12″E; 25.VII.2018; Stiassny et al. leg.; 5, 19.6–20.6 mm, AMNH 274741.

**Identification.** Three diminutive “butterfly bars” currently placed in the genus *Enteromius* are known from the Congo basin: *E. candens, E. hulstaerti,* and *E. papilio* (Banister and Bailey 1979); however, the occurrence of several additional “color morphs” have been widely reported in the aquarium literature (e.g., Schiewen 2006; Evers 2007), and this highly distinctive species complex is clearly in need of a basin-wide taxonomic revision. In the Munganza River, a small, forested tributary of the Mfimi, occurring with specimens clearly assignable to *E. hulstaerti* (Fig. 4E), were individuals of a putatively undescribed butterfly barb (Fig. 4D). These individuals share the small size, striking pigmentation, absence/reduction of barbels and pored lateral line scales, and reduction of pectoral-fin ray number characteristic of other butterfly bars, yet based on their highly distinctive pigment patterning are unassignable to any of the described species of this group. Pending more detailed taxonomic investigation we refer here to these individuals as *E. aff. hulstaerti*. Interestingly, a recent study of the relationships of the African small barbs based on cytochrome b sequence data (Hayes and Armbruster 2017) including a representative of *E. hulstaerti*, suggested that a new generic designation will be necessary for these butterfly bars.

Mochokidae

*Synodontis* sp. “Tshe”

**Figure 4F**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with the Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 7, 39.2–89.4 mm, AMNH 274611.

**Identification.** Among a collection of *Synodontis* from the Tshe River were specimens readily identifiable, following Poll (1974), as *S. greshoffi* (Fig. 4G) and *S. schoutedeni* (Fig. 4H). However, seven additional specimens in that collection were unassignable to either of those two species, nor to any other described taxon. The specimens, designated here as *Synodontis* sp. “Tshe”, appear intermediate between the blunt-snouted, small-eyed *S. schoutedeni* and the narrow-snouted, large-eyed *S. greshoffi*. Considerable variation among populations of *S. greshoffi* from around the Congo basin has been previously noted (Vigliotta personal communication), and resolution of the identity of *S. sp. “Tshe”* must await a basin-wide revision of this problematic group.

Other Taxa

Protopteridae

*Protopterus dolloi* Boulenger, 1900

**Figure 5A**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port, main channel Mfimi River; 02°44′14.90″S, 017°41′07.49″E; VIII.2015; Monsembula et al. leg.; 1, 251.5 mm, AMNH 269803 • Purchased, Nioki Port Market; 21 VII 2018; Stiassny et al. leg.; 1, 125.8 mm, AMNH 274702.

**Identification.** Body encased in interlocking bony, rhomboid scales. Pectoral fin reaches to the level of the first dorsal finlet or is only slightly separated from it. Forty-four or more scale rows around the body at the level of the first dorsal finlet, 20–26 predorsal scales, large black blotch on pectoral fin base and dark bars on body not, or only just, extending below the midline.

Polypteridae

*Polypterus weeksii* Boulenger, 1898

**Figure 5B**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port main channel Mfimi River; 02°44′14.90″S, 017°41′07.49″E; VIII.2015; Monsembula et al. leg.; 1, 251.5 mm, AMNH 269803 • Purchased, Nioki Port Market; 21 VII 2018; Stiassny et al. leg.; 1, 125.8 mm, AMNH 274702.

**Identification.** Body encased in interlocking bony, rhomboid scales. Pectoral fin reaches to the level of the first dorsal finlet or is only slightly separated from it. Forty-four or more scale rows around the body at the level of the first dorsal finlet, 20–26 predorsal scales, large black blotch on pectoral fin base and dark bars on body not, or only just, extending below the midline.

Pantodontidae

*Pantodon buchholzi* Peters, 1876

**Figure 5C**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port main channel Mfimi; 02°43′25.40″S, 017°41′38.50″E; 20.VII. 2018; Stiassny et al. leg.; 1, 48.0 mm, AMNH 274660 • Munganza River near Mongobele Mbongo Village; 02°47′58.26″S, 017°51′51.12″E, 25.VII.2018; Stiassny et al. leg.; 1, 46.5 mm, AMNH 274661 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 018°07′55.26″E; 25.VII.2018; Stiassny et al. leg.; 3, 26.6–45.2 mm, AMNH 274662.

**Identification.** The African Butterflyfish, *Pantodon buchholzi*, is readily recognized by its compressed body,
flattened dorsal profile, short posteriorly placed dorsal fin and enlarged wing-like pectoral fins, among many other features. Although this species is considered widespread throughout west-central and west Africa the study of Lavoué et al. (2011) noted marked divergence (upward of 15%) in mitogenomes of individuals from west African (Niger basin) and central African populations, suggesting a deep phylogeographic split dated to greater than 50 Myr. Despite this deep molecular divergence Pantodon is morphologically similar throughout its range and...
remains considered a single species. The type material of *Pantodon buchholzi* is from the vicinity of Victoria (Limbe) in Cameroon.

**Notopteridae**

*Papyrocranus congoensis* (Nichols & La Monte, 1932)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Lomomo River near Kilako Village; 02°45′14.94″S, 017°55′58.03″E; 20.VII.2018; Stiassny et al. leg.; 1, 83.5 mm, AMNH 274649 • Vainya Lake; 02°43′01.62″S, 017°38′31.50″E; 25.VII.2018; Stiassny et al. leg.; 1, 150.2 mm, AMNH 274651 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 018°07′55.26″E; 25.VII.2018; Stiassny et al. leg.; 2, 100.2–109.9 mm, AMNH 274652.

**Identification.** Body strongly laterally compressed with numerous dark bars and spots. Dorsal fin present, pelvic fins absent. Anal fin (104–118 rays) not fully confluent with the caudal fin. Gill rakers on lower limb of the first arch 7–8.

*Xenomystus nigri* (Günther, 1868)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 1, 93.2 mm, AMNH 274654 • Vainya Lake; 02°43′10.35″S, 017°38′35.96″E; 21.VII.2018; Stiassny et al. leg.; 66, 59.4–93.5 mm, AMNH 274656 • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 018°44′49.45″E; 22.VII.2018; Stiassny et al. leg.; 2, 90.6–147.2 mm, AMNH 274657 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 018°07′55.26″E; 25.VII.2018; Stiassny et al. leg.; 1, 73.6 mm, AMNH 274659.

**Identification.** Body strongly laterally compressed with well-developed pre-pelvic keel. Dorsal fin absent, pelvic fins rudimentary, anal fin continuous with caudal. Coloration variable, light brown to black but never exhibiting any patterning or distinctive markings. Roberts (1992) provided a useful revision of the Old World Notopteridae.

**Mormyridae**

*Cyphomyrus psittacus* (Boulenger, 1897)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 1, 83.7 mm, AMNH 274021. • Mfimi River at confluence with Ndombolo River; 02°44′39.98″S, 017°42′40.76″E; 22.VII.2018; Stiassny et al. leg.; 1, 115.5 mm, AMNH 2740221. • Mfimi River near Mongobele Bondjon; 02°47′20.88″S, 017°51′35.28″E; 24.VII.2018; Stiassny et al. leg.; 3, 54.9–69.2 mm, AMNH 274023.

**Identification.** Deep-bodied with dorsal fin longer than anal fin. Dorsal-fin origin well in advance of anal-fin origin. Mouth terminal or subterminal, width about 20% of head length. Eye diameter equal to or slightly longer than snout length.

*Cyphomyrus plagiostoma* (Boulenger, 1898)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 1, 145.0 mm, AMNH 274080.

**Identification.** Deep-bodied with dorsal fin longer than anal fin. Dorsal-fin origin well in advance of anal-fin origin. Posterior nostril closer to anterior nostril than to eye. Caudal peduncle thin and elongate, 16 circumpuducular scales. Snout bluntly rounded, mouth inferior with 7–9 teeth in the upper jaw and 8–10 in the lower. Eye relatively large. Dorsal fin with 31–35 rays, anal fin with 27–30 rays. Eschmeyer et al. (2021) assigned this species to *Pollimyrus*; however, it lacks the characteristics of that genus while possessing those of *Cyphomyrus* (dorsal fin longer than anal, posterior nostril closer to anterior nostril than to eye vs. anal fin longer than dorsal, posterior nostril closer to the eye than to the anterior nostril), additionally the species displays the characteristic “hunchback” appearance of *Cyphomyrus*, a trait for which the genus was named. Generic placement of *plagiostoma* in *Cyphomyrus* is further supported by preliminary molecular studies (Sullivan personal communication).

*Gnathonemus echinorhynchus* Pellegrin, 1924

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.018; Stiassny et al. leg.; 2, 133.5–159.6 mm, AMNH 274024 • Vainya Lake; 02°43′10.35″S, 017°38′35.96″E; 22.VII.2018; Stiassny et al. leg.; 1, 127.1 mm, AMNH 274025.

**Identification.** Deep-bodied with dorsal fin longer than anal fin. Dorsal-fin origin well in advance of anal-fin origin. Mouth terminal or subterminal, width about 20% of head length. Eye diameter equal to or slightly longer than snout length.

*Marcusenius leopoldianus* (Boulenger, 1899)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mingomi Stream near Ngenza Village, small channel slow flow over mud.; 02°40′48.96″S, 017°39′16.14″E; 23.VII.2018; Stiassny et al. leg.; 4, 74.0–82.6 mm, AMNH 274036 • Lomomo River near confluence with Mfimi; 02°45′19.74″S, 017°55′55.80″E; 25.VII.2018; Stiassny et al. leg.; 1, 96.7
mm, AMNH 274037 • Nioki Port main channel Mfimi River; 02°44'14.90″S, 017°41'07.94″E; VIII.2015; Monsembula et al. leg.; 1, 143.2 mm, AMNH 269815.


**Marcusenius schilthuisiae** (Bouleguer, 1899)

Figure 5J

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44'39.98″S, 017°42'40.76″E; 21.VII.2018; Stiassny et al. leg.; 10, 55.7–62.5 mm, AMNH 274045 • Mfimi River at confluence with Ndombolo River; 02°47'26.30″S, 017°44'49.45″E; 22.VII.2018; Stiassny et al. leg.; 4, 64.1–70.2 mm, AMNH 274046 • Mingomi Stream near Ngenza Village, small channel slow flow over mud; 02°40'48.96″S, 017°39'16.14″E; 23.VII.2018; Stiassny et al. leg.; • 4, 51.0–57.5 mm, AMNH 274047 • Lebee River near Mosomba Village; 02°46'49.17″S, 017°58'09.79″E; 25.VII.2018; Stiassny et al. leg.; 3, 62.1–76.2 mm, AMNH 274048.

**Identification.** Small submental appendage present and extending just beyond the end of the upper jaw. Eight circumpeduncular scale rows. Snout short and blunt. Dorso-fin origin situated behind anal-fin origin, dorsal-fin base ends well before that of anal fin, 21–25 scale rows in transverse series between dorsal and anal-fin origin. Anal fin with 32–35 rays, 42–54 scales in longitudinal series. Boden et al. (1997) provided a key to the “large-scaled” Marcusenius, all of which have eight circumpeduncular scales vs. 12 in all other species of the genus.

**Mormyrus nigricans** Bouleguer, 1899

Figure 5K

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44'39.98″S, 017°42'40.76″E; 21.VII.2018; Stiassny et al. leg.; 3, 68.3–88.9 mm, AMNH 269827 • Molibampe River, Baboo; 02°43'22.00″S, 017°41'55.70″E, VIII.2015; Monsembula et al. leg.; 3, 53.2–86.2 mm, AMNH 269830 • Molibampe River at Mpumpe; 02°42'08.43″S, 017°43'49.23″E; VIII.2015; Monsembula et al. leg.; 1, 74.9 mm, AMNH 269829.

**Identification.** Anterior and posterior nostrils extremely close together and located just outside anterior border of eye, mouth inferior. Body more-or-less uniformly colored with no pectoral, dorsal, or caudal spots or bars. Eleven notched teeth in the upper jaw and 20–24 in the lower jaw. Thirty-four–37 pored scales in the lateral line, 12 circumpeduncular scales. Ten scale rows between the anterior base of the anal fin and the lateral line. Anal fin with 25–28 rays, dorsal fin with 23–25 rays. The dorsal fin rays in our specimens are more numerous than the 18–19 reported for *P. congicus* by David and Poll (1937). Unfortunately, Lavoué and Sullivan (2014) did not include *P. congicus* in their key to the Petrocephalus species of the Central Congo basin, and no additional information on this species is available. Due to this
uncertainty in identification, we refer here to these specimens as *P. cf. congicus*.

*Petrocephalus microphthalmus* Pellegrin, 1909

Figure 6D

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mingomi Stream near Ngenza Village, small channel with slow flow over mud.; 02°40’48.96”S, 017°39’16.14”E; 23.VII.2018; Stiassny et al. leg.; 6, 21.9–38.1 mm, AMNH 274068 •, Mobilampe River at Mabala; 02°42’14.90”S, 017°42’50.44”E; VIII.2015; Monsembula et al. leg.; 3, 55.9–65.3 mm,
AMNH 269833 • Site 5, Tshe River; 02°44′42.01″S, 017°44′33.87″E; VIII.2015; Monsembula et al. leg.; 3, 49.0–64.5 mm, AMNH 269836.

**Identification.** Anterior and posterior nostrils extremely close together and located just outside anterior border of eye, mouth inferior. Snout bluntly rounded, mouth small with 9–11 bicuspid teeth in the upper and 14–20 in the lower jaw. Dorsal fin with 15–18 rays, anal fin with 23–28 rays. Anterior margin of the dorsal fin usually darkly pigmented. Only 8–9 (rarely 10) scale rows between the anal-fin origin and the lateral line. A small species, rarely reaching beyond 5 cm in length. Lavoué et al. (2010) and Lavoué and Sullivan (2014) provided excellent reviews of many of the *Petrocephalus* species of the Congo basin.

**Pollimyrus nigripinnis** (Boulenger, 1899)

Figure 6E

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port, main channel Mfimi River; 02°44′14.90″S, 017°41′07.49″E; VIII.2015; Monsembula et al. leg.; 1, 88.2 mm, AMNH 269840 • Molibampe River at Mpumpe; 02°42′08.43″S, 017°43′49.23″E; VIII.2015; Monsembula et al. leg.; 1, 79.0 mm, AMNH 269841.

**Identification.** Posterior nostrils closer to the eye than to anterior nostrils. Dorsal fin (20–22 rays) shorter than anal fin (26–27 rays), and origin located posterior to origin of anal fin. Deep-bodied, with snout blunt and rounded, mouth wide with nine teeth in upper jaw and 10 in lower jaw. Caudal peduncle thin, expanded posteriorly, with 12–14 circumpeduncular scales. A large species often attaining 5 cm in length.

**Pollimyrus maculipinnis** (Nichols & La Monte, 1934)

Figure 6F

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 1, 85.5 mm, AMNH 274077 • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 018°44′49.45″E; 22.VII.2018; Stiassny et al. leg.; 1, 67.4 mm, AMNH 274078 • Purchased at Nioki Port Market; 21.VII.2018; Stiassny et al. leg.; 1, 60.0 mm, AMNH 274076.

**Identification.** Posterior nostrils closer to the eye than to anterior nostrils. Dorsal fin with low number of rays (17–19) shorter than anal fin (21–25 rays), and origin located posterior to origin of anal fin. Small sized, moderately deep-bodied, with snout somewhat acute, mouth very small with seven teeth in upper jaw and eight in lower jaw. Caudal peduncle thin, expanded posteriorly, with 12–14 circumpeduncular scales. Anterior margin of the dorsal and anal fins usually darkly pigmented, otherwise no conspicuous markings on the body. A small species, rarely reaching beyond 5 cm in length.

**Stomatorhinus kununguensis** Poll, 1945

Figure 6G

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with the Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 3, 34.5–45.5 mm, AMNH 274081 • Lomomo River, near confluence with Mfimi; 02°45′19.74″S, 017°55′55.80″E; 25.VII.2018; Stiassny et al. leg.; 1, 60.5 mm, AMNH 274082.

**Identification.** Posterior nostril distant from anterior nostril and located just above the mouth. Elongate with body depth above anal fin origin 21–22% of standard length. Snout blunt and rounded with seven notched teeth in the upper jaw and eight in the lower, eye diameter 10.5–13% of head length. Dorsal fin with 16–19 rays, anal with 21–23. Caudal peduncle short and deep, with 12–14 circumpeduncular scales. The taxonomy of *Stomatorhinus* is extremely poorly understood. However, Poll (1945) and Sullivan and Hopkins (2004) provided useful information for some members of this poorly documented genus.

Clupeidae

**Microthrissa congica** (Regan, 1917)

Figure 6H

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port, main channel Mfimi River; 02°44′14.90″S, 017°41′07.49″E; VIII.2015; Monsembula et al. leg.; 1, 58.0 mm, AMNH 269804 • Site 5, Tshe River; 02°44′42.01″S, 017°44′33.87″E, VIII.2015; Monsembula et al. leg.; 12, 55.0–57.2 mm, AMNH 269809 • Molibampe River, Babôo; 02°43′22.00″S, 017°41′55.70″E, VIII.2015; Monsembula et al. leg.; 11, 45.2–57.9 mm, AMNH 269808.


**Nannothrissa stewarti** Poll & Roberts, 1976

Figure 6I

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Harbor, main channel Mfimi River; 02°44′10.87″S, 017°40′47.46″E; VIII.2015; Monsembula et al. leg.; 1, 49.5 mm, AMNH 269805 • Site 7, Tshe River; 02°44′42.01″S, 017°44′33.87″E, VIII.2015; Monsembula et al. leg.; 1, 40.7–42.2 mm, AMNH 269806.

**Identification.** Relatively deep-bodied, lower jaw prognathous, dentition on dentary, maxilla, and premaxilla...
extremely reduced or, more commonly, absent. Pre-pelvic (9–10) and post-pelvic (7–9) scutes well developed and strongly keeled. Single supramaxilla deep with a slender anterior shaft. Anal-fin rays 17–19, and 34–35 scales in longitudinal series.

**Potamothrissa obtusirostris** (Boulenger, 1909)

Figure 6J

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47’20.88″S, 01°7’51.35″E; 24.VII.2018; Stiassny et al. leg.; 3, 37.4–52.7 mm, AMNH 274745 • Lomomo River near Kilako; 02°45’16.20″S, 01°5’56’’06.66″E, 25.VII.2018; Stiassny et al. leg.; 5, 46.5–59.8 mm, AMNH 274746 • Lebee River at Mushuma; 02°46’49.17″S, 01°7’58’’09.79″E, 25.VII.2018; Stiassny et al. leg.; 11, 50.3–58.2 mm, AMNH 274748.

**Identification.** Lower jaw shallow with teeth extending the length of the jaw, no teeth on the maxilla. First dorsal fin-ray inserted in advance of the pelvic insertion. Pre-and post-pelvic scutes weakly developed and belly rounded. Snout bluntly rounded. Gourene and Teugels (1994) provided useful keys to genera and species of the African pellonulines.

Kneriidae

**Phractolaema ansorgi** Boulenger, 1901

Figure 6K

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River, barrage drained and collected in mud; 02°36’52.42″S, 01°7’43’’40.30″E; 22.VII.2018; Stiassny et al. leg.; 7, 89.6–102.7 mm, AMNH 274663 • Ndzaa River, near Mushimine Village; 02°58’25.08″S, 01°8’’07.55.26″E; 25.VII.2018; Stiassny et al. leg.; 1, 84.0 mm, AMNH 274664.

**Identification.** Hingemouths are highly distinctive in appearance, with an elongate cylindrical body encased in large regularly imbricating cycloid scales. The head is small with elongate tubular anterior nostrils and a small but highly protrusible mouth, opening upward forming a trunk-like appendage. Large specimens often exhibit conspicuous keratinous tubercles on the head, and sharp thorn-like spines along and above the posterior lateral line scales.

Cyprinidae

**Enteromius cf. miolepis** (Boulenger, 1902)

Figure 6L

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58’25.08″S, 01°8’’07.55.26″E; 25.VII.2018; Stiassny et al. leg.; 2, 68.4–85.9 mm, AMNH 274742.

**Identification.** While no key to the “small barbs” (*Enteromius* spp.) of the Congo basin is currently available, the Ndzaa specimens closely resemble the widespread African zigzag barb, *Enteromius miolepis* (Skelton, 2001). However, Van Ginneken et al. (2017) considered *E. miolepis* of the Congo basin to be a polyspecific complex of up to 13 putative species. The type locality of *E. miolepis* is the Yembe River at Banzyville (Ubangi basin) some 850 km to the north of the Ndzaa. Therefore, pending more detailed study, we refer here to the Ndzaa specimens as *E. cf. miolepis*.

Citharinidae

**Citharus gibbosus** Boulenger, 1899

Figure 7A

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River at Mabalà; 02°42’14.90″S, 01°7’42’’50.44″E; VIII.2015; Monsembula et al. leg.; 2, 104.0–108.0 mm, AMNH 269870 • Site 7, Tshe River, 02°45’05’’49.4″S, 01°7’46’’38.30″E, VIII.2015; Monsembula et al. leg.; 1, 50.0 mm, AMNH 269872 • Purchased at Nioki Night Market, Nhawou, 20.VII.2018; Stiassny et al. leg.; 3, 79.0–109.5 mm, AMNH 274708.

**Identification.** Extremely deep-bodied and laterally compressed. Scales cycloid, snout projecting below lower jaw, fine teeth on lower jaw in a single row. Base of adipose fin about as long as the distance between it and the dorsal fin, dorsal-fin origin close to level of pelvic-fin insertion. Fifty-three–59 scales in the lateral line, 10–12 scale rows from pelvic insertion to lateral line.

Distichodontidae

**Distichodus altus** Bouleuger, 1899

Figure 7B

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Lomomo River, near confluence with Mfimi; 02°45’19.74″S, 01°7°55.50″E; 25.VII.2018; Stiassny et al. leg.; 1, 71.8 mm, AMNH 274712 • Kutu Port, at mouth of Lake Mai Ndome; 02°43’27.91″S, 01°8’’09.42.34″E; 25.VII.2018; Monsembula et al. leg.; 1, 109.5 mm, AMNH 269875 • Purchased at Nioki Night Market, Nhawou, 20.VII.2018; Stiassny et al. leg.; 2, 95.6–125.8 mm, AMNH 274710.

**Identification.** Deep-bodied and somewhat laterally compressed. Maxilla large and mobile, lower jaw with mobile joint, two or more rows of comb-like bicuspid teeth in both jaws. Scales ctenoid, 40–45 pored scales along lateral line, nine scale rows between lateral line and pelvic insertion. Anal-fin base as long as, or longer than dorsal-fin base.

Distichodontidae

**Distichodus sexfasciatus** Bouleuger, 1897

Figure 7C

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port main channel Mfimi; 02°43’25.40″S, 01°7’41’’38.50″E; 20.VII.2018; Stiassny et al. leg.; 1, 36.7 mm, AMNH 274722 • Tshe River near confluence with the Mfimi; 02°44’39.98″S,

Identification. Deep-bodied and laterally compressed. Maxilla large and mobile, lower jaw with mobile joint, two or more rows of fine bicuspid teeth, 12–14 outer row teeth in both jaws. Snout deeper than long and laterally compressed. Scales ctenoid, 60–68 pored scales in lateral line. 11–12 scale rows between lateral line and pelvic insertion. Anal-fin base much shorter than dorsal-fin.
base. Six thick black bands from head to base of caudal fin. Reviews of many Congo basin Distichodus are provided by Moelants et al. (2014, 2018) and Abwe et al. (2019). See also Arroyave et al. (2020) and Schmidt et al. (2021).

**Ichthyborus ornatus** (Boulenger, 1899)

Figure 7D

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47’20.88″S, 017°51’35.28″E; 24.VII.2018; Stiassny et al. leg.; 1, 81.8 mm, AMNH 274732.

**Identification.** Maxilla large and mobile, jaws with a single row of small bicuspid teeth, maxilla without teeth. Scales small, ctenoid, 40–42 pored scales in complete lateral line, 15–16 circumpeduncular scales. Body elongate and torpedo-shaped, eye large, dorsal fin insertion well in front of insertion of pelvic fins. Pectoral fins large and reaching to pelvic fins. Body cream with numerous dark patches and blotches, black blotch at base of caudal peduncle.

**Neolebias philippei** Poll & Gosse, 1963

Figure 7H

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Bingomi Stream near Ngenza Village, small channel slow flow over mud.; 02°40’48.96″S, 017°39’16.14″E; 23.VII.2018; Stiassny et al. leg.; 28, 18.3–24.4 mm, AMNH 274735 • Site 5, Tshe River; 02°44’42.01″S, 017°44’33.87″E, VIII.2015; Monsembula et al. leg.; 3, 21.5–26.4 mm, AMNH 269894.

**Identification.** Maxilla large and mobile, jaws with two rows of small bicuspid teeth, maxilla with 5–6 teeth. Scales small, ctenoid, lateral line with only a few pored scales anteriorly, 32–34 scales in longitudinal series, 12–14 circumpeduncular scales. Caudal peduncle longer than deep, two dark bands running along either side of the midline for length of body, not extending onto caudal fin.

**Monostichodus mesnaekersi** (Poll, 1959)

Figure 7F

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’49.45″E; 22.VII.2018; Stiassny et al. leg.; 63, 26.4–42.5 mm, AMNH 274728 • River Munganza near Mongobele Mbongo Village; 02°47’58.26″S, 017°51’51.12″E; 24.VII.2018; Stiassny et al. leg.; 3, 37.8–44.1 mm, AMNH 274729 • Lomomo River, near confluence with Mfimi; 02°45’19.74″S, 017°55’55.80″E; 25.VII.2018; Stiassny et al. leg.; 2, 34.6–35.4 mm, AMNH 274731.

**Identification.** Previously considered a species of Hemistichodus, Musschoot and Snoeks (2016) have placed the genus in junior synonymy with *Monostichodus*. Maxilla very small, premaxilla large and mobile, jaws with two rows of small bicuspid teeth, maxilla with 5–6 teeth. Scales small, ctenoid, lateral line scales pored anteriorly and posteriorly but not in middle portion of longitudinal series. Premaxillary teeth long necked bicuspid, not enlarged or fang-like, single row of teeth in both jaws. Dorsal and caudal fin with dark bands and blotches.

**Nannocharax macropterus** Pellegrin, 1926

Figure 7G

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47’20.88″S, 017°51’35.28″E; 24.VII.2018; Stiassny et al. leg.; 7, 34.0–36.5 mm, AMNH 274734.

**Identification.** Maxilla large and mobile, jaws with a single row of small bicuspid teeth, maxilla without teeth. Scales small, ctenoid, 40–42 pored scales in complete lateral line, 15–16 circumpeduncular scales. Body elongate and torpedo-shaped, eye large, dorsal fin insertion well in front of insertion of pelvic fins. Pectoral fins large and reaching to pelvic fins. Body cream with numerous dark patches and blotches, black blotch at base of caudal peduncle.

**Phago boulengeri** Schilthuis, 1981

Figure 7I

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’9.45″E; 22.VII.2018; Stiassny et al. leg.; 6, 41.2–110.7 mm, AMNH 274737 • Lomomo River near Kilako; 02°45’16.20″S, 017°56’06.66″E, 25.VII.2018; Stiassny et al. leg.; 2, 66.3–101.7 mm, AMNH 274738 • Lebee River near Monsomba Village; 02°46’49.17″S, 017°58’09.79″E; 25.VII.2018; Stiassny et al. leg.; 1, 58.3 mm, AMNH 274739.

**Identification.** Maxilla very small, premaxilla large and mobile, jaws with two rows of small bicuspid teeth, maxilla with 5–6 teeth. Scales small, ctenoid, lateral line extending over entire length, 40–42 pored scales. Two rows of teeth in both jaws, inner row widely separated from outer row. Premaxillary teeth not enlarged and fang-like, snout tubular. Caudal fin black with numerous white bars and large spots.
Hepsetus microlepis (Boulenger, 1901)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River at Mpumpe; 02°42’08.43”S, 017°43’34.92”E; VIII.2015; Monsembula et al. leg.; 1, 229.0 mm, AMNH 269864 • Vainiya Lake; 02°43’01.62”S, 018°38’31.50”E; 21.VII.2018; Stiassny et al. leg.; 1, 84.5 mm, AMNH 274776.

**Identification.** The African pikes are highly distinctive in appearance, with elongate snouts and posteriorly place dorsal fins. Dentition is characteristic with a single row of large conical unicupid teeth on the upper jaw and two rows of similarly shaped teeth on the lower, a pair of large canine teeth are present anteriorly on both. Two pairs of triangular dermal flaps are present on the jaws. Uniform yellow-gold coloration with no obvious markings or stripes. Scale rows between dorsal fin and lateral line (9.5–10.5) and between adipose fin and lateral line (5.5–6.5). Gill rakers along first arch 13–14. In a series of recent studies Decru et al. (2012, 2013a, 2013b, 2015) have revised the taxonomy of this genus, once considered as monotypic, to include six species.

Alestidae

**Alestes liebrechtsii** Boulenger, 1898

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Night Market; 21.VII.2018; Stiassny et al. leg.; 4, 94.3–98.4 mm, AMNH 274749.

**Identification.** Large well-developed adipose eyelid envelopes most of the eye leaving only a thin slit in the region of the pupil. Jaws with robust, molariform premaxillary inner row teeth, absence of a third row of molariform premaxillary teeth (see *Bryconaethiops*, below). Elongate, lateral line positioned below midline on flanks, dorsal fin located above pelvic-fin insertion, dorsal fin with 10–11 rays, anal with 17–19 rays. A key to *Alestes* was given by Paugy (1986), and Stiassny et al. (2009) provided an updated generic diagnosis for the genus.

**Alestopetersius leopoldianus** (Boulenger, 1899)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River at Mpumpe; 02°42’08.43”S, 017°43’34.92”E; VIII.2015; Monsembula et al. leg.; 1, 60.5 mm, AMNH 269864 • Lomomo River, near Kilako Village; 02°45’14.94”S, 017°55’58.03”E, 20.VII.2018; Stiassny et al. leg.; 1, 75.4 mm, AMNH 274751.

**Identification.** Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, no inner tooth row on the dentary. Outer premaxillary teeth (4) alternating with placement of inner tooth row, lateral line complete. Body relatively elongate, snout narrow and mouth large. Scale rows above (5.5) and below (3.5) lateral line, 10 circumpeduncular scales. Wide black band from posterior edge of eye to base of caudal fin, extending onto fin base.

**Brachypetersius altus** (Boulenger, 1899)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • main channel Mfimi around Nioki Port; 02°43’25.40”S, 017°41’38.50”E, 20.VII.2018; Stiassny et al. leg.; 4, 31.3–44.8 mm, AMNH 274760 • Mfimi at confluence with Ndomboko River; 02°47’26.30”S, 018°44’49.45”E; 22.VII.2018; Stiassny et al. leg.; 1, 41.4 mm, AMNH 274761 • River Munganza near Mongobele Mbongo Village; 02°47’58.26”S, 017°51’51.12”E; 24.VII.2018; Stiassny et al. leg.; 3, 35.5–40.4 mm, AMNH 274763 • Lebee River near Mosomba Village; 02°46’49.17”S, 017°58’09.79”E; 25.VII.2018; Stiassny et al. leg.; 2, 38.4–44.7 mm, AMNH 274764 • Lomomo River, near confluence with Mfimi; 02°45’19.74”S, 017°55’55.80”E; 25.VII.2018; Stiassny et al. leg.; 1, 48.6 mm, AMNH 274765.

**Identification.** Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, two symphysal conical teeth form inner tooth on the dentary. Outer premaxillary teeth (4) alternating with placement of inner tooth row, lateral line complete. Deep-bodied with 5–5.5 scales in transverse row between lateral line and dorsal fin origin. Large oviod-round black spot on the caudal peduncle, below the adipose fin, never extending over caudal base.

**Brycinus bimaculatus** (Boulenger, 1899)

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Lomomo River near Kilako; 02°45’16.20”S, 017°56’06.66”E, 25.VII.2018; Stiassny et al. leg.; 2, 78.7–79.5 mm, AMNH 274766 • Lomomo River, near confluence with Mfimi; 02°45’19.74”S, 017°55’55.80”E; 25.VII.2018; Stiassny et al. leg.; 6, 74.1–86.2 mm, AMNH 274767.

**Identification.** Adipose eyelid absent, inner row premaxillary teeth broad and molariform. Fronto-parietal fontanelle absent. Snout length more than three times in head length, no humeral spot and a large black spot located above the lateral line behind the dorsal fin, and another at the base of the caudal peduncle. Paugy (1986) provided a key to the species of *Brycinus* (additional information on all described species is available in an online resource (Paugy et al. 2019).

**Identification.** Large well-developed adipose eyelid envelops most of the eye leaving only a thin slit in the region of the pupil. Jaws with robust, molariform premaxillary inner row teeth, with a third row of molariform teeth. Lateral line positioned close to midline on body. Large humeral spot present, otherwise, body without additional spots or markings. Eye diameter a little less than snout length, 12 circumpeduncular scales.
**Clupeocharax schoutedeni** Pellegrin, 1926

Figure 8G

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Lomomo River near Kilako; 02°45’16.20″S, 017°56’06.66″E, 25.VII.2018; Stiassny et al. leg.; 2, 31.0–34.7 mm, AMNH 274774 • Lomomo River near confluence with Mfimi; 02°45’19.74″S, 017°55’55.80″E; 25.VII.2018; Stiassny et al. leg.; 3, 33.3–33.6 mm, AMNH 274775 • Site 5, Tshe River; 02°44’42.01″S, 017°44’33.87″E, VIII.2015; Monsembula et al. leg.; 4, 30.0–39.6 mm, AMNH 269862.

**Identification.** A small alestid with a single row of extremely small recurved unicuspid teeth in both jaws, and a lateral line reduced to 4–6 scales. Lower jaw large and prominent. Posterior part of body with narrow longitudinal band running along midline.

**Micralestes stormsi** Pellegrin, 1926

Figure 8H

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47’20.88″S, 017°51’35.28″E; 24.VII.2018; Stiassny et al. leg.; 1, 52.3 mm, AMNH 274778.

**Identification.** Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, two conical symphyseal inner row teeth on the dentary. Outer premaxillary teeth (6) not alternating with placement of inner tooth row, lateral line (23–24 pored scales) complete. Body silvery with a broad dark stripe becoming diffuse anteriorly, adipose fin black. There remains considerable confusion regarding the taxonomy of the numerous species of *Micralestes*, and much taxonomic work is needed. Poll (1962) remains the authoritative text, and Stiassny et al. (2007) provided a key to the species present in the lower Congo.

**Rhabdalestes aeratis** Stiassny & Schaefer, 2005

Figure 8I

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Vainya Lake; 02°43’01.62″S, 017°38’31.50″E; 21.VII.2018; Stiassny et al. leg.; 4, 52.8–61.4 mm, AMNH 274787 • Nioki Port, main channel Mfimi near Mpumpe Village; 02°39’00.48″S, 017°44’05.16″E; 22.VII.2018; Stiassny et al. leg.; 11, 24.3–45.8 mm, AMNH 274782 • River Munganza near Mongobele Mbongo Village; 02°47’58.26″S, 017°51’51.12″E; 24.VII.2018; Stiassny et al. leg.; 6, 29.7–53.2 mm, AMNH 274783 • Lomomo River near Kilako; 02°45’16.20″S, 017°56’06.66″E, 25.VII.2018; Stiassny et al. leg.; 2, 33.2–40.5 mm, AMNH 274784.

**Identification.** Teeth multicuspidate, inner row premaxillary teeth narrow, never molariform and with a single cutting edge, two symphyseal conical teeth form inner tooth on the dentary. Outer premaxillary teeth (4) alternating with placement of inner tooth row, lateral line incomplete (7–13 pored scales), 20–23 scales in longitudinal series, 4.5 above and 3.5 scale rows below the lateral line at the level of origin of the dorsal fin. Anal fin with 19–21 rays. Thin mid-lateral black band above a diffuse, often indistinct wider band.

**Clariidae**

**Channallabes apus** (Günther, 1873)

Figure 9A

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Vainya River; 02°43’14.41″S, 017°38’06.19″E; 21.VII.2018; Stiassny et al. leg.; 2, 235.8–270.0 mm, AMNH 274790 • Main channel Mfimi near Mpumpe Village; 02°39’00.48″S, 017°44’05.16″E; 22.VII.2018; Stiassny et al. leg.; 5, 242.6–265.0 mm, AMNH 274791 • Molibampe River, barrage drained and collected in mud; 02°36’52.44″S, 017°43’40.30″E; 22.VII.2018; Stiassny et al. leg.; 5, 195.0–215.5 mm, AMNH 274792 • Mingomi Stream near Ngenza Village, small channel with slow flow over mud; 02°40’48.96″S, 017°39’16.14″E; 23.VII.2018; Stiassny et al. leg.; 7, 95.0–140.8 mm, AMNH 274793.

**Identification.** Body elongate and eel-like, elongate dorsal (100–110 rays) and anal (110–120 rays) fins lacking spines and confluent with caudal fin. Pectoral fin absent or vestigial, pelvic fin absent. Roof of neurocranium visible dorsally with separate, small anterior and posterior fontanelles. Body coloration variable, light brown (often with rows of white pores visible) to almost black.

**Clariallabes variabilis** Pellegrin, 1926

Figure 9B

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Vainya River; 02°43’14.41″S, 017°38’06.19″E; 21.VII.2018; Stiassny (14–15), 27–28 pored scales in a complete lateral line, and 17–19 gill rakers on the lower limb of the first arch.
**Figure 9.** Representative species of genera collected in the region. **A.** Channallabes apus (AMNH 274793). **B.** Clariallabes variabilis (AMNH 274797). **C.** Clarias buthupogon (AMNH 274801). **D.** Dolicallabes microphthalmus (AMNH 274789). **E.** Belonglanis tenuis (AMNH 274084). **F.** Malapterurus monsembeensis (AMNH 274087). **G.** Paradoxoglanis caudovittatus (AMNH 274090). **H.** Synodontis decorus (AMNH 274093). **I.** Auchenoglanis occidentalis (AMNH 269910). **J.** Chrysichthys punctatus (AMNH 274620). **K.** Notoglanidium macrostoma (AMNH 274612). Scale bar = 1 cm.

Identification. Body relatively elongate, anal fin base considerably more than 50% of standard length, cheek exposed with no dorsal bony covering. Eye without a free border and covered with skin. Anal and dorsal fins...
confluent, or nearly so, with the caudal fin. Distance from supraoccipital process to dorsal fin as long or longer than internal maxillary barbel length, and maxillary barbels long or longer than head.

*Clarias bathupogon* Sauvage, 1879

Figure 9C

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Main channel near Mutuli Village, large seine across wide channel into reeds; 02°40’01.96″S, 017°44’12.12″E; 21.VII.2018; Stiassny et al. leg.; 1, 240.0 mm, AMNH 274800 • Tshe River near confluence with Mfimi; 02°44’39.98″S, 017°42’40.76″E; 21.VII.2018; Stiassny et al. leg.; 6, 98.5–125.0 mm, AMNH 274801 • Lomomo River near confluence with Mfimi; 02°45’19.74″S, 017°55’55.80″E; 25.VII.2018; Stiassny et al. leg.; 2, 165.0–260.0 mm, AMNH 274802.

**Identification.** Body relatively elongate, anal fin base less than 50% of standard length. Supraorbital contacts infraorbital series dorsally forming a bony covering. Pectoral spine strongly serrated on either side, extremely long barbels, length of maxillary barbel 140–310% of head length. Coloration generally dark, often with faint marbleing and numerous small white pores irregularly distributed over the body.

*Dolichallabes microphthalmus* Poll, 1942

Figure 9D

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Main channel near Mutuli Village, large seine across wide channel into reeds; 02°40’01.96″S, 017°44’12.12″E; 21.VII.2018; Stiassny et al. leg.; 1, 240.0 mm, AMNH 274800 • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’49.45″E; 22.VII.2018; Stiassny et al. leg.; 5, 78.2–127.5 mm, AMNH 274089.

**Identification.** Body extremely elongate and eel-like, dorsal, and anal fins lacking spines and confluent with pointed caudal fin. Pectoral fins present, sometimes vestigial, pelvic fins diminutive, sometimes absent. Roof of neurocranium extremely narrow with a single elongate fontanel visible dorsally, somewhat obscured by massively enlarged adductor mandibulae muscles in large individuals, snout blunt and rounded. Body coloration uniformly dark brown.

**Amphiliidae**

*Belonoglanis tenuis* Boulenger, 1902

Figure 9E

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’49.45″E; 22.VII.2018; Stiassny et al. leg.; 11, 50.0–89.5 mm, AMNH 274084 • Mfimi River near Mongobele Bondjon; 02°47’20.88″S, 017°51’35.28″E; 24.VII.2018; Stiassny et al. leg.; 1, 59.2 mm, AMNH 274085 • Lomomo River near confluence with Mfimi; 02°45’19.74″S, 017°55’55.80″E; 25.VII.2018; Stiassny et al. leg.; 5, 78.2–129.6 mm, AMNH 274086.

**Identification.** Series of six or seven large bony scutes anterior to the pelvic fin, no spine present on the anterior margin of the adipose fin. Snout acutely pointed, three pairs of barbels short and papillose, no fontanelle on neurocranium, occipital process trilobate. Pectoral fins large, about as long as head, caudal peduncle extremely long and thin, caudal fin small and weakly emarginate. Black bar on pectoral, dorsal and pelvic fins.

**Malapteruridae**

*Malapterurus monsembeensis* Roberts, 2000

Figure 9F

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’49.45″E; 22.VII.2018; Stiassny et al. leg.; 1, 128.3 mm, AMNH 274087.

**Identification.** Heavy, fleshy bodied, no fin spines, no dorsal fin, anal and adipose fins posteriorly displaced, lateral line complete. Head relatively depressed, lower jaw slightly protruding, with broad tooth-patches. Pectoral fins low on body and obliquely angled. Dorsum and flanks covered with numerous spots, rarely present ventrally on the body.

*Paradoxoglanis caudivittatus* Norris, 2002

Figure 9G

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58’25.08″S, 018°07’55.26″E; 25.VII.2018; Stiassny et al. leg.; 21, 64.5–127.5 mm, AMNH 274090.

**Identification.** Body fleshy, torpedo-shaped, no fin spines, no dorsal fin, adipose fin with relatively long base. Anal and adipose fins posteriorly displaced, lateral line incomplete terminating at level of pelvic fin. Dark marking proximally on the pectoral fin, body covered with numerous spots and blotches, well-developed caudal saddle and bar pattern on caudal peduncle and fin.

**Mochokidae**

*Syncodontis decorus* Boulenger, 1899

Figure 9H

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30″S, 018°44’49.45″E; 22.VII.2018; Stiassny et al. leg.; 1, 142.3 mm, AMNH 274093.

**Identification.** Mouth not modified into a sucker, eye with a free margin, caudal fin forked. Nasal barbels absent, single pair of maxillary barbels, two pairs of mandibular barbels bearing numerous ramified branches. Humeral process large, about as long as head, body pigmentation dominated by a few large spots and dorsal bars. Dorsal and caudal fins pale with prominent black bars.
Claroteidae

**Auchenoglanis occidentalis** (Boulenger, 1902)  
Figure 9I

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port, main channel Mfimi River; 02°44'14.90"S, 01°71'07.49"E; VIII.2015; Monsembula et al. leg.; 1, 82.4 mm, AMNH 269910.

**Identification.** Anterior nostril forming small tube located anteriorly on upper lip. Supraoccipital process massive and in contact with the first of three nuchal plates. Pointed snout, narrow mouth, eye large, head steeply inclined to dorsal fin. Premaxillary tooth plates closely set and ovoid. Caudal fin weakly forked. Body covered with irregularly shaped spots in a reticulated pattern, extending onto dorsal, caudal, and adipose fins, becoming faint or absent in large adults. Retzer (2010) revised the taxonomy of *Auchenoglanis* and based primarily on pigmentation patterning, assigned the Congo basin species to *A. wittei* Gillay, 1930. However, Fricke et al. (2021) did not recognize the taxonomic conclusions of Retzer (2010) and retained *A. occidentalis* for the central and lower Congo basin species.

**Chrysichthys punctatus** (Boulenger 1902)  
Figure 9J

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47'20.88"S, 01°75'35.28"E; 24.VII.2018; Stiassny et al. leg.; 2, 66.4–68.5 mm, AMNH 274623 • Main channel near Mushimine Village; 02°56'06.66"E, 25.VII.2018; Stiassny et al. leg.; 3, 46.2–55.0 mm, AMNH 274623 • Main channel near Munganza River, near Mongobele Mbongo Village; 02°46’49.17”S, 01°58’09.79”E; 25.VII.2018; Stiassny et al. leg.; 1, 72.4 mm, AMNH 274624.

**Identification.** Dorsoventrally depressed, eye small dorsoventrally positioned on head, and without free border. First nuchal plate widely separated from supraoccipital process. Caudal fin rounded. Dorsal fin high and rounded, 7 branched rays. Numerous dark spots and blotches on head, body, and fins, often aligned into transverse bands on the flanks. Based on a suite of morphological features Geerinckx et al. (2013) synonymized the genera *Liauchenoglanis, Platyglanis* and *Anaspidoglanis* with *Notoglanidium*, but the interrelationships of this group remain unresolved and in need of investigation.

**Parauchenoglanis punctatus** (Boulenger, 1902)  
Figure 10A

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30"S, 01°84’44.49.45”E; 22.VII.2018; Stiassny et al. leg.; 3, 88.0–131.2 mm, AMNH 274626.

**Identification.** Anterior nostril tubular and located anteriorly on upper lip. First mucus plate thin and needle-like. Eyes small, with free border and positioned dorsolaterally on head. Caudal fin truncate or subtruncate, caudal peduncle short with depth twice the horizontal distance between adipose and caudal-fin bases. Pectoral spine serrated along anterior margin. Barbels long, external mandibular barbel reaching to tip of pectoral spine. Pigmentation patterning consisting of 6–10 vertical rows of black dots. Geerinckx et al. (2004) provided a revision of *Parauchenoglanis*.

Schilbeidae

**Paraila congica** Boulenger, 1899  
Figure 10B

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47’26.30”S, 01°84’44.49.45”E; 22.VII.2018; Stiassny et al. leg.; 2, 39.7–53.6 mm, AMNH 274628 • Mfimi River near Mongobele Bondjon; 02°47’20.88”S, 01°57’35.28”E; 24.VII.2018; Stiassny et al. leg.; 4, 45.1–61.7 mm, AMNH 274629 • River Munganza near Mongobele Mbongo Village; 02°47’58.26”S, 01°51’51.12”E; 24.VII.2018; Stiassny et al. leg.; 1, 45.0 mm, AMNH 274630 • Lomomo River near Kilako; 02°45’16.20”S, 01°56’06.66”E, 25.VII.2018; Stiassny et al. leg.; 14, 51.2–56.5 mm, AMNH 274631 • Lebee River near Mosomba Village; 02°46’49.17”S, 01°58’09.79”E; 25.VII. 2018; Stiassny et al. leg.; 9, 46.5–59.0 mm, AMNH 274632.

**Identification.** Body strongly laterally compressed, dorsal and adipose fins absent, inner surface of pectoral spine smooth without serrations. Abdomen short, anal fin extremely long (70–90 rays). Body coloration varies from pale brown to almost uniformly black.
Figure 10. Representative species of genera collected in the region. 


Pareutropius debauwi (Boulenger, 1900)
Figure 10C

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 018°44′49.45″E; 22.VII.2018; Stiassny et al. leg.; 9, 42.6–51.8 mm, AMNH 274634 • River Munganza near Mongobe Mbongo Village; 02°47′58.26″S, 017°51′51.12″E; 24.VII.2018; Stiassny et al. leg.; 5, 38.2–47.6 mm, AMNH 274636 • Lomomo River, near confluence with Mfimi;
02°45′19.74″S, 01°75′55.80″E; 25.VII.2018; Stiassny et al. leg.; 10, 39.8–72.4 mm, AMNH 274638 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 01°8′07′′55.26″E; 25.VII.2018; Stiassny et al. leg.; 3, 58.0–63.2 mm, AMNH 274639.

Identification. Body laterally compressed, particularly so posteriorly, dorsal fin with 3–4 rays, adipose fin present. A single pair of mandibular barbels, and a dark black midlateral band.

**Schilbe yangambianus** (Poll, 1954)

Figure 10D

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 01°8′07′′55.26″E; 25.VII.2018; Stiassny et al. leg.; 1, 102.5 mm, AMNH 274648.

Identification. Body laterally compressed, particularly so posteriorly, dorsal fin with 5–6 rays, adipose fin present. Anterior nostrils at the same distance or closer to each other than are the posterior nostrils, nasal barbel long, reaching beyond opercular border. Body coloration brown with irregular marbling along the flanks and a very dark blotch above the pectoral spine (inner side of spine weakly serrated). De Vos (1995) noted a series of differences in meristic and morphological features between *S. yangambianus* from the Kasai-Kwango as compared with those from the Middle Congo.

Mastacembelidae

**Mastacembelus greshoffi** Boulenger, 1901

Figure 10E

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 01°8′07′′55.26″E; 25.VII.2018; Stiassny et al. leg.; 3, 79.4–87.0 mm, AMNH 274672 • Tshe River near confluence with Mfimi; 02°44′39.98″S, 01°42′40.76″E; 21.VII.2018; Stiassny et al. leg.; 9, 112.0–185.4 mm, AMNH 274674 • Vainya Lake; 02°43′10.35″S, 01°38′35.96″E; 22.VII.2018; Stiassny et al. leg.; 8, 145.8–154.5 mm, AMNH 274676 • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 01°44′49.45″E; 22.VII.2018; Stiassny et al. leg.; 3, 85.5–122.8 mm, AMNH 274677 • Purchased at Nioki Port Market; 24.VII.2018; Stiassny et al. leg.; 1, 255.5 mm, AMNH 274678 • Lomomo River, near confluence with Mfimi; 02°45′19.74″S, 01°55′55.80″E; 25.VII.2018; Stiassny et al. leg.; 3, 72.8–186.5 mm, AMNH 274679.

Identification. Anguilliform, tubular body, tapering to a narrow, somewhat pointed caudal fin. Prominent rostral appendage bearing a tubular nostril on either side of a central rostral tentacle. Twenty-nine–33 detached, erectile spines in front of soft dorsal and two in front of soft anal fins. Dorsal and anal fins elongate and confluent with caudal fin. Strong preorbital spine, 3–4 preopercular spines. Coloration dusky brown, with blotches, marbling, and reticulations on the body, and over the entire postanal length. Numerous small spots fringing the posterior dorsal and anal fins and around the caudal fin. Vreven (2001) noted variation in color patterning between populations of *M. greshoffi* from around Pool Malebo and those from the central Congo, most notably in the presence of larger, rectangular, or more hexagonal markings restricted to the midline, in central Congo populations. Specimens in our collections exhibit both patterns of pigmentation.

Anabantidae

**Ctenopoma acutirostre** Pellegrin, 1899

Figure 10F

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi main channel around Nioki Port; 02°43′25.4″S, 01°7′41′′38.5″E; 21.VII.2018; Stiassny et al. leg.; 2, 28.6–73.2 mm, AMNH 274680 • Kutu Port; 02°43′27.91″S, 01°8′09″42.34″E; VIII.2015; Monsembula et al. leg.; 2, 57.0–85.6 mm, AMNH 269975.

Identification. Deep-bodied, snout acute, mouth large with ascending process of premaxilla extending beyond middle of the orbit, visible in interorbital space. Scales ctenoid, lateral line interrupted, 3.5 scale rows between upper lateral line and dorsal fin. Caudal fin with 16 segmented rays. Large dark brown spots irregularly spaced on flanks and head.

**Ctenopoma nigropannosum** Reichenow, 1875

Figure 10G

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River, barrage drained and collected in mud; 02°36′52.44″S, 01°74′30.30″E; 22.VII.2018; Stiassny et al. leg.; 9, 73.0–98.5 mm, AMNH 274683 • Mfimi main channel, near Mpumpe Village; 02°38′45.01″S, 01°74′52.62″E; 23.VII.2018; Stiassny et al. leg.; 8, 63.0–80.3 mm, AMNH 274685 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 01°8′07′′55.26″E; 25.VII.2018; Stiassny et al. leg.; 4, 52.5–66.6 mm, AMNH 274686.

Identification. Body elongate and robust, not distinctly deeper at dorsal-fin origin, snout blunt and rounded, premaxillary process not reaching beyond orbit. Scales ctenoid, lateral line interrupted. Single coronal pore in interocular space, caudal fin with 14 segmented rays. Pelvic fins without pigmentation, dark oblong bar often present on caudal peduncle.

**Microtenopoma fasciolatum** (Boulenger, 1899)

Figure 10H

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port main channel Mfimi; 02°43′25.40″S, 01°7′41′′38.50″E; 20.VII.2018; Stiassny et al. leg.; 2, 41.3–58.0 mm, AMNH 274692 • Ndzaa River, near Mushimine Village; 02°58′25.08″S, 01°8′07′′55.26″E; 25.VII.2018; Stiassny et al. leg.;
Channidae

Parachanna insignis (Sauvage, 1884)
Figure 10I

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with Mfimi; 02°24′39.98″S, 017°42′40.76″E; 21 VII.2018; Stiassny et al. leg.; 3, 63.4–222.0 mm, AMNH 274704 • Vainya Lake; 02°43′14.41″S, 017°38′06.19″E; 21 VII.2018; Stiassny et al. leg.; 7, 55.8–86.9 mm, AMNH 274705 • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 018°44′49.45″E; 22 VII.2018; Stiassny et al. leg.; 2, 63.4–79.8 mm, AMNH 274707.

Identification. Body elongate and laterally compressed posteriorly, small cycloid scales covering body, somewhat larger on head, unpaired fins long based without spines. Snout acute, eyes large, anterior nostrils tubular. Twenty-five–33 scales in transverse series between dorsal and anal-fin origin. Lateral line complete, located along midline with 70–86 pored scales.

Cichlidae

Congochromis sabinae (Lamboj, 2005)
Figure 10A

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mingomi Stream near Ngenza Village, small channel slow flow over mud.; 02°40′48.96″S, 017°39′16.14″E; 23 VII.2018; Stiassny et al. leg.; 78, 28.0–42.9 mm, AMNH 274812 • River Munzanga near Mongobele Mbongo Village; 02°47′58.26″S, 017°51′51.12″E; 25 VII.2018; Stiassny et al. leg.; 6, 26.5–41.4 mm, AMNH 274813 • Ndzaa River, near Mushimbe Village; 02°58′25.08″S, 018°07′55.26″E; 25 VII.2018; Stiassny et al. leg.; 2, 28.3–29.5 mm, AMNH 274814.

Identification. Lateral line interrupted, at level of pelvic fin insertion upper branch separated from dorsal fin by two scale rows, single nostril. Well-developed, visor-like hanging pad on the pharynx roof. Relatively robust, unicuspid teeth in both jaws, six preopercular pores. Robust rounded snout and nape. Dark longitudinal stripe not extending onto the caudal fin.

Coptodon congica (Poll & Thys van den Audenaerde, 1960)
Figure 11B

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Main channel near Mutali Village, large seine across wide channel into reeds; 02°40′18.96″S, 017°44′12.12″E; 21 VII.2018; Stiassny et al. leg.; 4, 78.3–168.0 mm, AMNH 274816 • Vainya Lake; 02°43′10.35″S, 017°38′35.96″E; 22 VII.2018; Stiassny et al. leg.; 3, 87.6–110.4 mm, AMNH 274818 • Lomomo River near Kilako; 02°45′16.20″S, 017°56′06.66″E; 25 VII.2018; Stiassny et al. leg.; 1, 67.0 mm, AMNH 274746.

Identification. Lateral line interrupted, single pair of nostrils. Deep bodied, outer row teeth on both jaws robust, bicuspids, teeth in inner rows smaller and tricuspid. First gill arch short and rounded, with 11–14 rakers. Lower pharyngeal jaw as wide as long. Large males often with prominent nuchal hump. Coloration overall uniformly dark, caudal fin scaled proximally. Dunz and Schliewen (2013) provided a revised classification of haplotilapiine cichlids formerly referred to “Tilapia”.

Hemichromis lifalili Loiselle, 1979
Figure 11C

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Tshe River near confluence with the Mfimi; 02°44′39.98″S, 017°42′40.76″E; 21 VII.2018; Stiassny et al. leg.; 5, 47.3–71.0 mm, AMNH 274825 • Vainya Lake; 02°43′10.35″S, 017°38′35.96″E; 22 VII.2018; Stiassny et al. leg.; 37, 21.0–53.5 mm, AMNH 274828 • Mingomi Stream near Ngenza Village, small channel slow flow over mud.; 02°40′48.96″S, 017°39′16.14″E; 23 VII.2018; Stiassny et al. leg.; 15, 25.0–49.3 mm, AMNH 274830.

Identification. Lateral line interrupted, single pair of nostrils. Relatively deep bodied, outer row teeth on both jaws robust, conical unicuspids, teeth in inner rows smaller. Prominent black spot on opercle and second large spot at midbody located entirely above the lower lateral line, no black spot posteriorly in the dorsal fin. Scales cycloid, 25–27 in longitudinal series. Head profile strongly convex, with tendency toward a nuchal hump in large males. Loiselle (1979) provided the most recent revisional study of the two-spotted, jewel cichlids of the genus Hemichromis. However, considerable taxonomic confusion persists within this group, and definitive identification remains problematical.

Nanochromis transvestitus Stewart & Roberts, 1984
Figure 11D, E

Material examined. DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi at confluence with Ndombolo River; 02°47′26.30″S, 018°44′49.45″E; 22 VII.2018; Stiassny et al. leg.; 10, 26.5–37.3 mm, AMNH 274825 • Vainya Lake; 02°44′39.98″S, 017°42′40.76″E; 21 VII.2018; Stiassny et al. leg.; 37, 21.0–53.5 mm, AMNH 274828 • Mingomi Stream near Ngenza Village, small channel slow flow over mud.; 02°40′48.96″S, 017°39′16.14″E; 23 VII.2018; Stiassny et al. leg.; 1, 67.0 mm, AMNH 274746.
Identification. Lateral line interrupted, at level of pelvic fin insertion upper branch contiguous with dorsal fin or separated by a single scale row, single nostril. Well-developed, visor-like hanging pad on the pharynx roof. Fine, unicuspid teeth in both jaws, seven preopercular pores. Strongly sexually dimorphic, females (Fig. 11E), considerably smaller than males, soft dorsal, anal, and caudal fin with prominent white bars. Males (Fig. 11D) with 5–6 dark bars on the dorsum extending to midline on flanks. Lips in both sexes white.
**Pelmatochromis nigrofasciatus** (Pellegrin, 1900)

**Figure 11F**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River, wide channels through dense grasses; 02°36'55.86"S, 017°43'45.30"E; 21.VII.2018; Stiasnay et al. leg.; 1, 46.6 mm, AMNH 274837 • Vainya Lake; 02°43'01.62"S, 017°38'31.50"E; 25.VII.2018; Stiasnay et al. leg.; 1, 53.3 mm, AMNH 274838 • Mingombi Stream near Ngenza Village, small channel with slow flow over mud; 02°40'48.96"S, 017°39'16.14"E; 23.VII.2018; Stiasnay et al. leg.; 23, 44.5–69.5 mm, AMNH 274840.


**Pterochromis congicus** (Boulenger, 1897)

**Figure 11G**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Vainya Lake; 02°43'10.35"S, 017°38'35.96"E; 22.VII.2018; Stiasnay et al. leg.; 3, 122.4–128.9 mm, AMNH 274844 • Mfimi at confluence with Ndombolo River; 02°47'26.30"S, 018°44'49.45"E; 22.VII.2018; Stiasnay et al. leg.; 1, 76.0 mm AMNH 274845 • Lomomo River, near confluence with Mfimi; 02°45'19.74"S, 017°55'55.80"E; 25.VII.2018; Stiasnay et al. leg.; 1, 75.6 mm, AMNH 274846.

**Identification.** Lateral line interrupted, single pair of nostrils. Relatively deep bodied, snout acute, eye and mouth large, premaxillary pedicel reaching to above orbit, outer row teeth on both jaws small, conical unicuspids, teeth in inner rows smaller. No visor-like hanging pad in the pharynx, 15–17 elongate gill rakers along lower limb of first arch. Scales cycloid, cheek deep with 6–7 scale rows, 24–25 scales in longitudinal series. Pectoral fins long and narrow, almost reaching level of first anal-fin spine, caudal fin truncate.

**Sarotherodon galilaeus boulengeri** (Pellegrin, 1903)

**Figure 11H**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Vainya Lake; 02°43'10.35"S, 017°38'35.96"E; 22.VII.2018; Stiasnay et al. leg.; 1, 54.5 mm, AMNH 274847.

**Identification.** Lateral line interrupted, single pair of nostrils. Relatively deep bodied, snout short, jaws isognathous, outer row teeth on both jaws fine, long-necked, mobile bicuspids, multiple inner rows of small tricuspid teeth. Scales cycloid, scales between pectoral and pelvic fins grade gradually in size with flank scales, 26–28 in longitudinal series. First gill arch short and rounded, with 20–27 thin gill rakers. Lower pharyngeal jaw much longer than wide. Caudal fin densely scaled. Five–6 irregular dark bars extending well-below the midline are often present. While Frickie et al. (2021) did not recognize subspecies of *S. galilaeus*, we follow Trewavas (1983) in recognizing *S. g. boulengeri* as a valid subspecies with a distribution restricted to the central Congo basin.

**Tylochromis pulcher** Stiasnay, 1989

**Figure 11I**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mfimi River near Mongobele Bondjon; 02°47'20.88"S, 017°51'35.28"E; 24.VII.2018; Stiasnay et al. leg.; 1, 62.8 mm, AMNH 274849 • Nioki Harbor main channel Mfimi River; 02°44'10.87"S, 017°40'47.46"E; VII.2015; Monsembula et al. leg.; 2, 100.8–115.8 mm, AMNH 269969 • Molibampe River at Mpumpe; 02°42'08.43"S, 017°43'49.23"E; VIII.2015; Monsembula et al. leg.; 1, 158.5 mm, AMNH 269972 • purchased at Nioki Port Market, 21 July 2018, Stiasnay et al. leg.; 3, 179.5–186.7 mm, AMNH 274848.

**Identification.** Lateral line disjunct, lower line extends anteriorly far beneath the upper line and posteriorly ends in a trifurcation over the caudal fin. Very deep bodied, single pair of nostrils, mouth large, unicuspids teeth in both jaws. Three anal fin spines, first spine very short, second spine elongate and almost as long as third. Lower pharyngeal jaw slender and gracile. Well-developed, visor-like hanging pad on the pharynx roof, 17–18 overlapping gill rakers along the lower limb of the first arch. Mature males with prominent oblique band behind head, pelvic fin uniformly black without pale maculae.

Nothobranchiidae

**Aphyosemion cognatum** Meinken, 1951

**Figure 12A**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Mingombi Stream near Ngenza Village, small channel slow flow over mud; 02°40'48.96"S, 017°39'16.14"E; 23.VII.2018; Stiasnay et al. leg.; 173, 12.0–29.5 mm, AMNH 274666.

**Identification.** Distance between eye and last preopercular opening almost as large as eye diameter, preopercular canal tubular with six pores, lower jaw narrow and not expanded anterovertrally. Pectoral fins inserted low, below midline on body. Relatively robust, many red spots often arranged in horizontal rows along the flanks and fins. In life dorsal and caudal fins with light blue margins.

**Epilatys chevalieri** (Pellegrin, 1904)

**Figure 12B**

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Ndzaa River, near Mushimine Village; 02°58'25.08"S, 018°07'55.26"E; 25.VII.2018; Stiasnay et al. leg.; 1, 39.4 mm, AMNH 274670 • River Munganza near Mongobele Mbongo Village; 02°47'58.26"S, 017°51'51.12"E; 25. River Munganza near Mongobele Mbongo Village; 02° 47° 58.26°S 017°
51° 51.12’E; 25.VII.2018; Stiassny et al. leg.; 2, 30.0–32.0 mm, AMNH 274853.

**Identification.** Distance between eye and last preopercular opening almost as large as eye diameter, preopercular canal tubular with five pores, lower jaw broadly expanded anteroventrally. Pectoral fins inserted low, below midline on body. Dorsal (7–8 rays) and anal (13–15 rays) set well back on body. In preservation large dark band below midline from opercle to base of caudal fin, in life numerous lines of red spots on body and fins. Van Der Zee et al. (2013) recognize the subspecies *E. chevalieri nigricans* (Boulenger, 1913) for specimens from eastern and central Congo, including those in the current collection, and *E. c. chevalieri* (Pellegrin, 1904) for *E. chevalieri* from around Pool Malebo and western regions.

**Procatopodidae**

*Congopanchax brichardi* Poll, 1971

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Molibampe River, wide channels through dense grasses; 02°36’55.86”S, 017°43’45.30”E; 21.VII.2018; Stiassny et al. leg.; 2, 12.0–16.1 mm, AMNH 274667 • Mfimi at confluence with Ndombolo River; 02°47’26.30”S, 018°44’49.45”E; 22. Mfimi at confluence with Ndombolo River; 02°47’26.30”S, 018°44’49.45”E; 22.VII.2018; Stiassny et al. leg.; 22, 12.5–18.4 mm, AMNH 274668.

**Identification.** Distance between eye and last preopercular opening very small, pore adjacent to posterior margin of eye. Pectoral fin insertion high, at or near midline. Preorbital sensory canal with two pores. Dorsal fin origin above, or just behind anal fin origin. Extremely small, translucent in life with orange anal and caudal fins.

**Tetraodontidae**

*Tetraodon miurus* Boulenger, 1902

**Material examined.** DEMOCRATIC REPUBLIC OF CONGO – Mai-Ndombe Province • Nioki Port main channel Mfimi; 02°43’25.40”S, 017°41’38.50”E; 20.VII.2018; Stiassny et al. leg.; 1, 50.2 mm, AMNH 274665.
Identification. Body rotund, skin covered with minute, erectile spines, teeth coalesced forming a beak, pelvic fins absent. Head as long as broad, snout obtusely pointed, two nasal tentacles on either side of snout in front of eyes. Lateral line system on head and body located in deep furrows. Dorsally dark brownish black, pale ventrally. Pectoral, dorsal, anal, and caudal fins creamy white.

Discussion

Due to the lack of published information on the ichthyofauna of the Mfimi basin and surrounding regions we utilized data from the most recent IUCN assessment of the status and distribution of central African fishes (Brooks et al. 2011; with distribution maps available online at https://www.iucnredlist.org/). Additionally, we augmented these with data from an additional online mapping resource (Paugy et al. 2008) as a rough guide to the presumptive ranges of all species reported here for the Mfimi. The IUCN assessment is a compilation of point data drawn from Stiassny et al. (2007) and from legacy collections housed in the Africa Museum, Tervuren (MRAC) and the American Museum of Natural History, New York (AMNH) reviewed by taxonomic experts prior to publication (Darwall and Smith 2011). While these comparative data are minimal for the Mfimi River itself, they do provide estimated ranges for fishes from the Kasai main channel and major tributaries, and to a limited extent also for the Cuvette Centrale, and the main channel of the Congo River. Additionally, we incorporated a review of two recently published checklists, Mbimbi Mayi Munene and Stiassny (2011) for the Kwilu River, a large tributary in the Kasai basin, and Monsemble Iyaba and Stiassny (2013) for rivers in the Salonga National Park in the Cuvette Centrale. While most species have not previously been reported from the Mfimi basin, for the great majority of these we believe this likely to be the result of lack of collection data rather than a true reflection of limited species’ ranges. That said, there are a few instances where our collections have significantly extended the known range of species into the Mfimi. Examples include the distichodontid Neolebias philippei (Fig. 7H), the alestid Rhabdalestes aeratis (Fig. 8i) and the cichlid Congochromis sabinae (Fig 11A), each previously confirmed as present only in distant localities within the Cuvette Centrale and/or the Congo River main channel. In addition to the putative new species discussed previously (Marcussenius aff. angolensis (Fig. 4A), Phenacogrammus sp. 1 (Fig. 4B), Phenacogrammus sp. 2 (Fig. 4C), Enteromius cf. hulstaertii (Fig. 4D) and Synodontis sp.”Tshe” (Fig. 4F), a single endemic to the Mfimi-Lukenie system (exclusive of Lake Mai Ndombe) is recognized here, the mochokid Synodontis robertsi Poll, 1974, previously known only from collections made in the Lukenie River at Iломbe, but now collected in the present study in the main channel of the Mfimi (Table 2). Of the 30 or so species previously reported from Lake Mai Ndombe, likely a significant underestimate of real diversity in the lake (Thieme et al. 2005), six are currently considered lake endemics: Amphilius opisththalmus Boulenger, 1919, Nannotrissia stewarti Poll & Roberts, 1976, Chrysichthys praecox Hardman & Stiassny, 2008, Hemichromis cerasogaster (Boulenger, 1899), Nanochromis transvestitus Stewart & Roberts, 1984, and Nanochromis wickeri Schliewen & Stiassny, 2006. Of these we have collected series of Nannotrissia stewarti (Fig. 6J) in the Tshe River, and Nanochromis transvestitus (Fig. 11D, E) in the main channel of the Mfimi, thus extending their distributions beyond the confines of the lake. Most additional species recorded from the Mfimi (and Lake Mai Ndombe) are widely distributed throughout the Congo basin, with occurrences reported from localities across the Cuvette Centrale, the Kasai basin, and often also from the main channel of the Congo River. However, perhaps the most striking finding of the present study is the observation that the number of species present in the Mfimi, but otherwise known only from the Cuvette Centrale and/or the main channel of the Congo River, and occasionally the Kwa, clearly exceeds those shared exclusively between the Mfimi and the Kasai basin (exclusive of the Kwa). We count 37 such species (highlighted in bold underscore in Table 2), a number that contrasts starkly with the apparent absence of a single species that occurs uniquely within the Kasai basin and the Mfimi and/or Lake Mai Ndombe. Some examples of the former include the notopterid Papyrocranus congoensis, the moronid Stomatorhinus kununguensis, the gonorhynchiform Phactrolaemus ansorgii, the hepetid Heptesus microlepis, the alestids Alostepetius hilgardorfii, A. leopoldianus, A. nigropeterus, Brycinus bimaculatus, and Clupeocharax schoutedeni, the distichodontids Distichodus decemmaculatus, D. altus, Ichthyboras ornatus, Monostichodus looventi and M. mesmaekerti, the clarioid Chrysichthys punctatus and Notoglanidium macrostoma, the clarid Claria labes centralis and Dolichlabes microphthalmus, the malapterurid Paradoxoglanis caudovittatus, the proctopodid Congocharax brichardi, the anabantids Microtenopoma ansorgii and M. fasciolatum, and the cichlids Pelmatochromis nigrofasciatus and Pterochromis congicus, among many others (Table 2).

In view of this strong signal of ichthyofaunal affinity, we suggest that the conventional view—that the Mfimi-Lukenie-Lake Mai Ndombe is faunistically part of the Kasai basin—is erroneous, and that the system should instead be considered part of the Cuvette Centrale. While the Mfimi-Lukenie, and consequently Lake Mai Ndombe, are today connected with the Kasai via an outflow at the Kwa-Kasai junction, numerous connections with the rivers and swamps of the Cuvette Centrale to the north persist. Affluents of Lake Mai Ndombe and the Mobimbe flow from extensive flooded forests and swamps reaching deep into the Cuvette Centrale and provide numerous corridors for faunal exchange, particularly during years of heavy flooding (Matthes 1964). While the geo-hydrological history of the central Congo
is poorly understood, the formation of the current configuration of the Congo basin is generally considered to have occurred around the Miocene-Pliocene transition with the final capture of a large inland lake, or lakes, that then occupied much of the present-day Cuvette Centrale (Beadle 1981). It has been posited that lakes Mai Ndome and Tumba may represent remnants of that former interior lake, although geological support for that hypothesis remains controversial (Thieme et al. 2005; Runge 2007). Despite these uncertainties, it is tempting to hypothesize that the limits of the present day Mfimi-Lukenie-Lake Mai Ndome system may demarcate the southern boundary of that ancient Paleo-Congo lake.

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References


