


FRESHWATER FISH OF THE LOWER ST PAUL RIVER, LIBERIA

IDENTIFICATION GUIDE

50 SPECIES I 66 IMAGES I LOCAL NAMES

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

MILLENNIUM CHALLENGE ACCOUNT LIBERIA

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December 2020

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FOREWORD

Millennium Challenge Corporation (MCC) is pleased to present this fish identification guide for the lower St. Paul River in Liberia. It is the first technical resource of its kind published for freshwater fishes in Liberia, and will be a critically important technical resource to students, fishing communities, scientists, policy makers, and project developers alike as Liberia continues to sustainably develop its freshwater resources.

Access to protein derived from freshwater fisheries is essential to the health and vitality of Liberia's citizenry, as is development of the country's considerable hydropower potential. Sustainability is integral to every investment MCC makes, but it is difficult to conserve a resource without first fully understanding it. The Mount Coffee hydropower plant rehabilitation represents an important step toward a future of reliable and affordable energy for Liberia, and the information contained in this guide will help inform decisions about how fisheries are to be managed alongside the Mount Coffee hydropower plant and other future hydropower developments in Liberia.

This identification guide is the product of over three years of collaborative work between several groups and organizations, and would not have been possible without each of their uniquely vital contributions. Most importantly, this document would not have been possible without the citizens of Montserrado County Liberia accepting the field research team into their communities, their homes, and their traditional fishing areas, and sharing their knowledge and expertise with the team. Millennium Challenge Account-Liberia's project management expertise was critical to the process, as was Liberia's National Fisheries and Aquaculture Authority's guidance on the practical matters of working in the field and collecting biogeographic data in Liberia. The Liberia Environmental Protection Agency supported the effort through their recognition of the importance of freshwater fisheries to the nation. The Liberia Electricity Corporation provided the research team access to the St. Paul River via the Mount Coffee Hydropower Plant rehabilitation project, and supplied invaluable logistical support to the team during their field work. MRAG were tireless in their efforts to collect and assimilate disparate and fragmented data from the St. Paul River and the broader West Africa region.

This document may be downloaded from the National Fisheries and Aquaculture Authority's website at https://www.nafaa.gov.lr/index.php/fisheries/inland

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Glossary of Terms

Term	Definition
Adipose	Fatty. A term often used in reference to small rayless fins and to eyelids
Barbels	An elongated fleshy projection, usually about the head
Branched ray	Branched either from the base or middle or tip of the ray
Distal	Remote from the point of attachment
Fork Length (FL)	Length measured from the tip of the snout to the end of the middle caudal fin rays
Fusiform	Tapering at both ends; spindle-shaped
Ground colour	Colour on which other colours are superimposed to create a pattern
Hard rays	Number of soft rays united to form hard rays, which are rigid and sharp
Mottled	Mark with spots or smears of colour
Nape	Upper surface of the body behind the head and before the dorsal fin
Opercle	Upper posterior and usually the largest bone of the operculum (gill cover) of a fish
Orbit	Eye socket
Proboscis	Extensible tubular sucking organ
Ramifications	Subdivision of a barbell structure
Ray	Jointed rod which supports a fin
Scute	Thickened horny or bony plate
Simple (soft) rays	Soft without any branching
Snout	Projecting nose and mouth of an animal
Spinous rays	Made of bone and are hard and strong, usually not flexible
Standard Length (SL)	Length measured from the tip of the snout to the posterior end of the caudal peduncle
Total Length (TL)	Length measured from the tip of snout to tip of the longer lobe of the caudal fin

Introduction

Freshwater bodies cover 15,050 km² (14%) of the total area of Liberia. These include rivers, lakes, lagoons, creeks and streams that drain to the Atlantic coast. Inland fisheries contribute approximately 25% of fish consumed by rural dwellers. One of the major Liberian riverine system, the St Paul, originates in south-eastern Guinea and flows south-westerly for around 500 km until it meets the Atlantic Ocean at Cape Mesurado in Monrovia. The total catchment area of St. Paul River is 20,500 km², of which 11,500 km² are in Liberia.

There are 167 known freshwater species in Liberia, 92 of which are thought to be found in the St Paul River. Of these, around half were caught during field surveys led by MRAG Ltd in 2018. These surveys were conducted in support of the rehabilitation of the Mount Coffee Hydropower Plant (HPP), located on the St. Paul River about 25 km upstream of Monrovia and 3 to 4 km west of Arthington town (Figure 1). The rehabilitation of the Mount Coffee HPP provided an opportunity to assess the fish species composition present within the St Paul River and site surrounding the HPP. Species caught, including two endemic (restricted to a certain location) species (*Coptodon coffea* and *Labeo curriei*) were captured using nets (Figure 2), hook and lines, as well as basket traps (Figure 3) regularly used by the local fishing community.

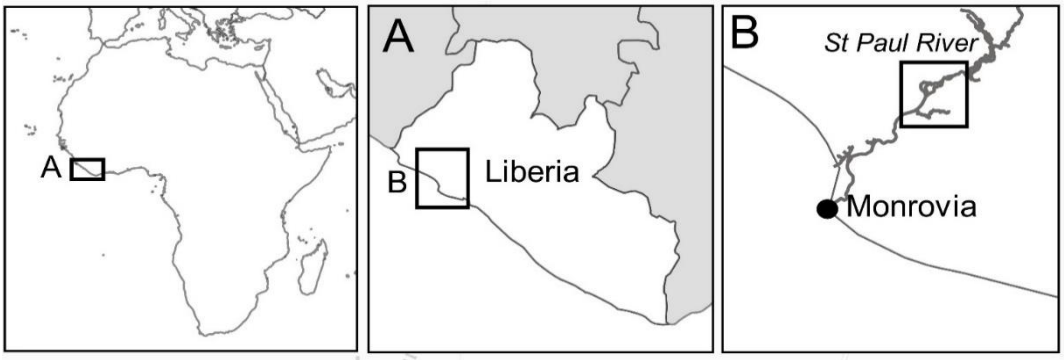


Figure 1. St Paul River, Liberia

Figure 2. Example of a standard fishing net used by the local fishing community

Figure 3. Locally constructed baited traps used by the local fishing community

Identification Key

Most fish families are recognisable by particular external characters, such as shapes, sizes and morphologies, including; body shape; tail shape; markings and patterns; mouth position and shape; and fins. In order to effectively use this identification guide there are a number of terms and descriptors that must be defined and are provided in the Figures below.

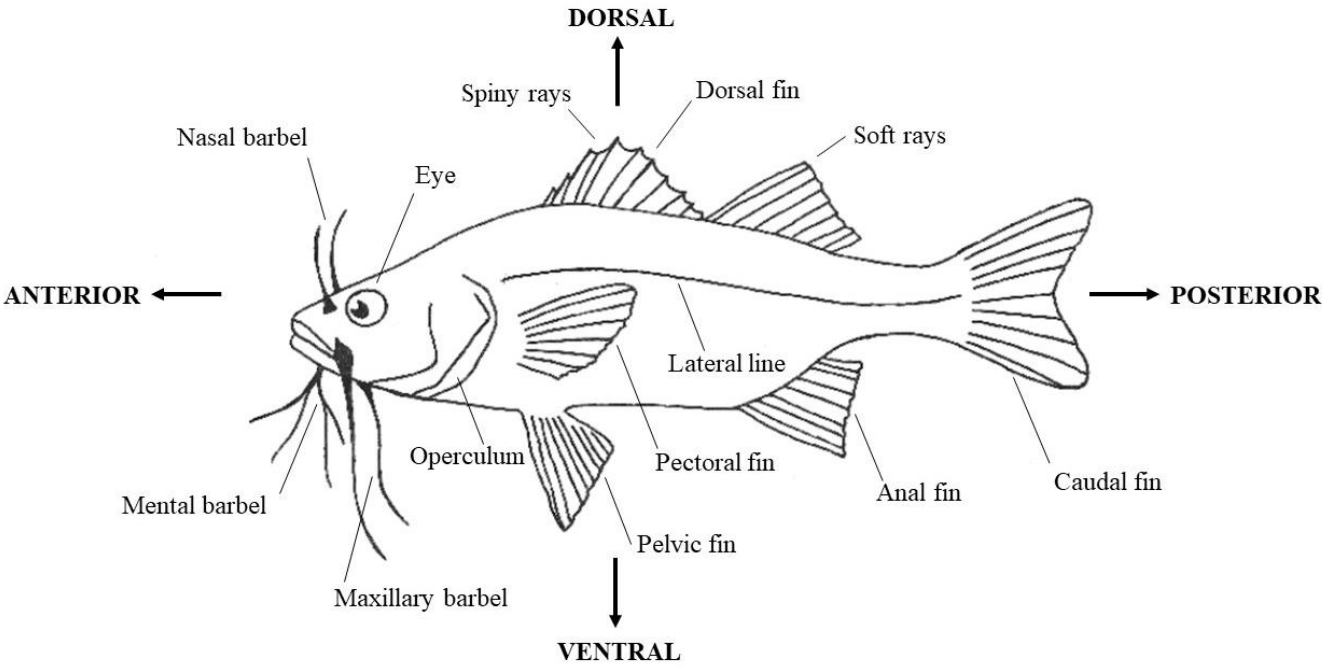


Figure 4: Direction descriptor of fish species and external feature locations (Illustrated by P. Howarth)

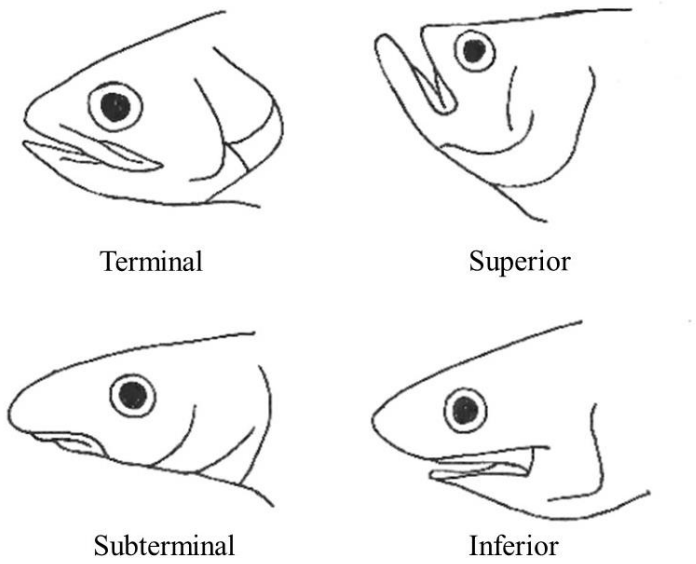


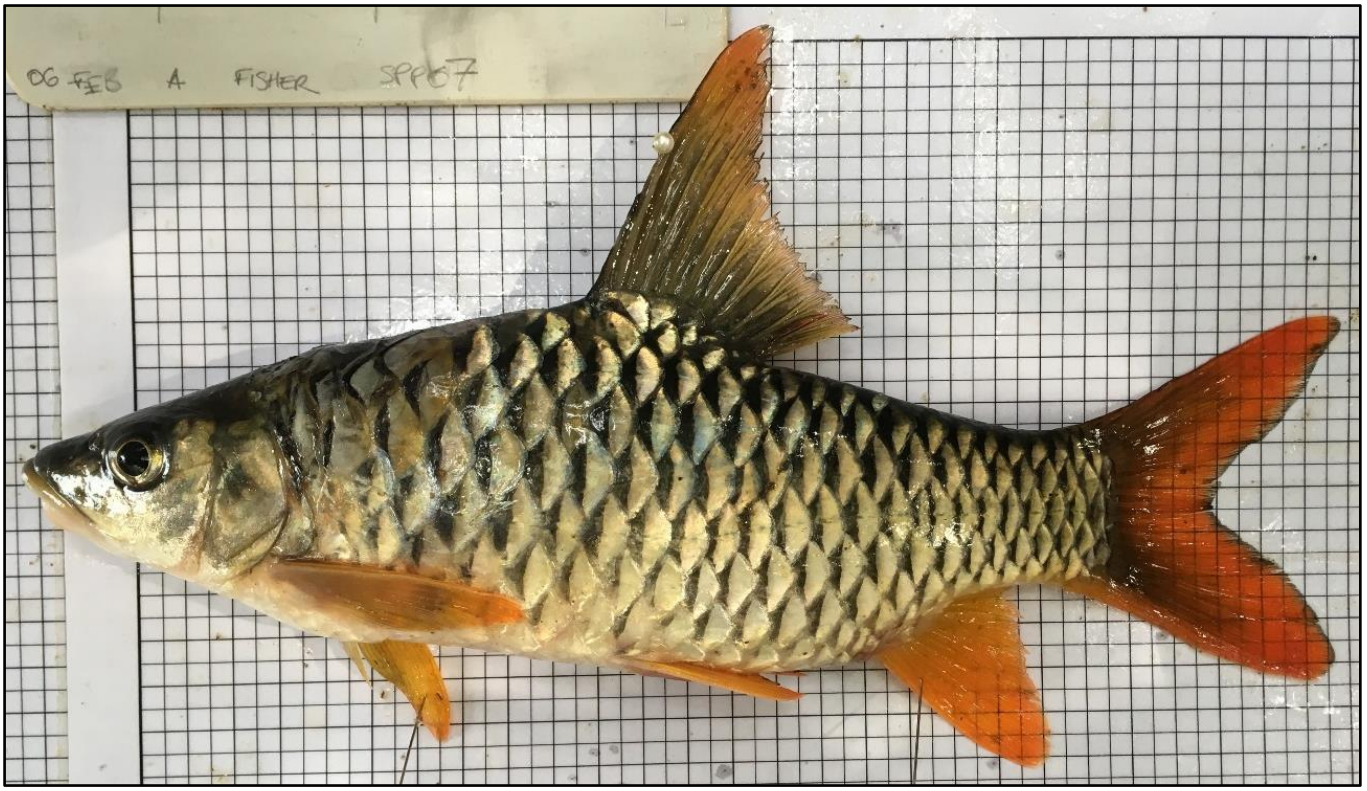
Figure 5: Mouth position descriptors (Illustrated by P. Howarth)

Fish Species

Presented in the fish identification guide are the 50 species of freshwater organisms caught during MRAGs field surveys, including a short description of key characteristics used during identification, its typical distribution and maximum recorded length.

1 Cyprinidae

1.1 Red Tail Hog fish (*Barbus sacratus*)-001



Key Identification Points

- Liberian populations have poorly developed lips;
- Two well developed barbels;
- Ground colour yellow-green, belly lighter and fins yellow.

Distribution

- Coastal basins of the Guinea ridge, from the river Tominé to Eastern Liberia.

Max Recorded Length

- Standard Length = 25.6cm.

1.2 Hog Fish (*Varicorhinus wurtzi*)-002

Key Identification Points

- Mouth low in position and broad, lower lip reduced and replaced by a horny sheath;
- Barbels very short;
- Scales converging posteriorly;
- Uniformly greyish black to greenish, lighter on belly.

Distribution

- West of the Volta.

Max Recorded Length

- Standard Length = 46.3cm.

1.3 Rock Fish (*Labeo coubie*)-003

Key Identification Points

- Slender body compared with *Labeo curriei;*
- Mouth low in position, with small posterior barbel at the corner of mouth;
- General appearance dark, back and sides greyish-blue to blackish, belly light;
- Scales on sides bluish-black with red centre.

Distribution

- Wide distribution areas - from Senegal to the Volta.

Max Recorded Length

- Standard Length = 75cm.

1.4 Rock Fish (*Labeo curriei*)-004

Key Identification Points

- Snout broad, mouth rounded;
- Anterior barbels absent or reduced;
- Dorsal fin rather long, its distal margin slightly concave.

Distribution

- Known only from the types from the St Paul River, Liberia.

Max Recorded Length

- Standard Length = 38.5cm.

2 Claroteidae

2.1 Drama Mpopo (*Chrysichthys johnelsi*)-005

Key Identification Points

- Rectangular snout and very large mouth;
- Live specimens from Liberia are yellowish;
- This species has a wider, flatter head compared with *C. nigrodigitatus.*

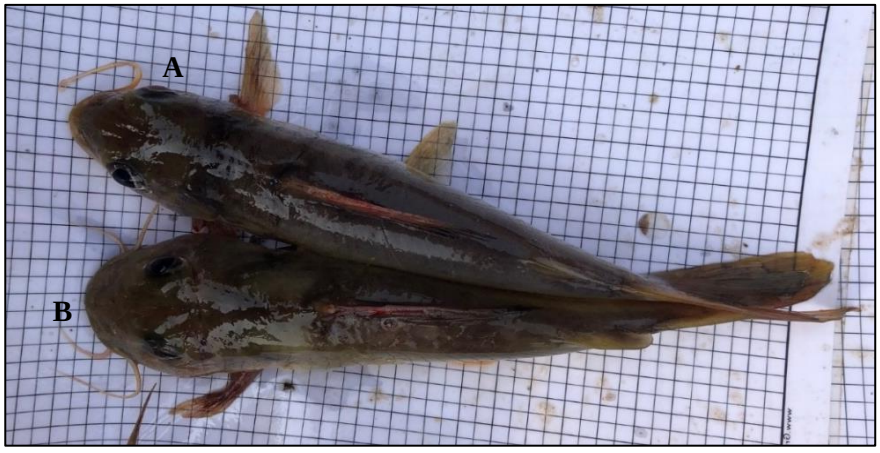
Distribution

- Found in most coastal rivers from Gambia to Ghana.

Max Recorded Length

- Total Length = 37.5cm.

2.2 White Catfish (*Chrysichthys nigrodigitatus*)-006



NB. *C. nigrodigitatus* (A) & *C. johnelsi* (B) can be distinguished by the width of their heads

Key Identification Points

- Recognised by its pointed snout and rather small mouth;
- Narrower head compared to *C. johnelsi;*
- Live specimens are greyish-silvery, but may become black under stress;
- Adipose fin often blackish;
- Black spot behind gill cover very distinct;
- Doral and caudal fin with black edges.

Distribution

- Known from most basin from areas in West Africa, extending from Senegal to Angola.

Max Recorded Length

- Total Length = 65cm.

2.3 White Catfish *(Chrysichthys maurus)*-007

Key Identification Points

- High number of branched pectoral-fin rays;
- Specimens from rivers Casamance, Lofa, Moa, St Paul, St John, Cess, Cavally, Sassandra and Bandama, have a dorsal fin reaching or exceeding (when pressed to body) the adipose fin;
- Live specimens are silvery, with brownish or greenish reflections;
- Dorsal and caudal fins frequently finely black-edged;
- Often a black spot behind gill cover.

Distribution

- Found in almost all coastal rivers, from Senegal to Ghana.

Max Recorded Length

- Total Length = 51cm.

3 Mormyridae

3.1 Dog Fish (*Marcusenius meronai*)-008

Key Identification Points

- Body rather elongate;
- Mouth terminal, sometimes sub-inferior;
- Pectoral fins are at most as long as the head;
- Tips of pectoral fins align with the pelvic-fin insertions;
- Caudal peduncle slender;
- Insertion of anal fin directly opposite dorsal fins;
- Tips of first dorsal fin rays marked in black;
- Colour- dark grey to blackish.

Distribution

- Found in the majority of West African costal basins;
- Known from some Sierra Leone rivers.

Max Recorded Length

- Standard Length= 20.5cm.

3.2 Dog Fish (*Marcusenius mento*)-009

Key Identification Points

- Dorsal fin starting slightly behind level of anal fin origin;
- Caudal peduncle slender;
- Ground colour dark, sometimes blackish.

Distribution

- Occurs in the Guinean region and in the Gambia, the Upper Senegal and the Upper Niger basins.

Max Recorded Length

- Standard Length = 25.9cm.

3.3 Dog Fish (*Marcusenius thomasi*)-010

Key Identification Points

- Dorsal fin beginning well behind anal-fin origin;
- Caudal peduncle slender;
- Ground colour brownish;
- Head, some areas of body and first dorsal and anal fin rays darker.

Distribution

- Only known for the Guinean region.

Max Recorded Length

- Standard Length = 20cm.

3.4 Long Dog fish (*Mormyrops anguilloids*)-011

Key Identification Points

- Body long with snout almost as broad as head;
- Ground colour dark bluish-grey or blackish. Belly a little lighter.

Distribution

- Has a very wide distribution area and present in most parts of Western African basins.

Max Recorded Length

- Standard Length = 150cm.

3.5 Bend Mouth (*Mormyrus tapirus*)-012

Key Identification Points

- Nose prolonged into a proboscis, mouth small;
- Dorsal fin beginning distinctly in advance of pelvic fins;
- Silvery, back darker and belly lighter.

Distribution

- Only known from coastal basins of the Guinean region.

Max Recorded Length

- Standard Length = 43cm.

3.6 Dog Fish (*Petrocephalus levequei*)-013

Key Identification Points

- Number of scales: 38-43 in a longitudinal series and 12 around caudal peduncle;
- Silvery to more or less brownish;
- First dorsal and anal fin rays black, sometimes only at their bases;
- Upper and lower caudal-fin rays also dark, thus forming a V-shaped blotch.

Distribution

- Guinean Atlantic areas and Sierra Leone.

Max Recorded Length

- Standard Length = 13cm.

4 Cichlidae

4.1 Red Belly (*Hemichromis fasciatus*)-014

Key Identification Points

- Lower jaw distinctly prominent;
- Caudal peduncle rather short;
- Copper-red through green to dark brown on back;
- Lower part of body orange-red, more pinkish on belly;
- Large, irregular black blotch on upper area of opercula;
- Four/five black blotches along midline of sides;
- Soft parts of dorsal finds bright red.

Distribution

- Widely distributed in West Africa.

Max Recorded Length

- Standard Length = 20.4cm.

4.2 Black & White PH (*Heterotilapia beuttikoferi*)-015

Key Identification Points

- Ground colour yellowish-grey, with seven or eight broads, oblique (forward-directed) brownish-black bars;
- First bar at level of eye, the last on caudal peduncle;
- Pectoral fins transparent, other fins brownish-black.

Distribution

- Lower river courses from Guinea Bissau to St John in Liberia.

Max Recorded Length

- Standard Length = 30.8cm.

4.3 PH (*Sarotherodon caudomarginatus*)-016

Key Identification Points

- Sides silvery in life with a yellow-orange spot on each scale;
- Lower part of head white;
- Doral, anal and caudal fin back-edged;
- “Tilapian” spot on dorsal fin present in young individuals.

Distribution

- Known from areas between the River Corubal and the River St. Paul.

Max Recorded Length

- Standard Length = 24.5cm.

4.4 Ghana PH (*Sarotherodon niloticus*)-017

Key Identification Points

- Distinct stripes on caudal fin;
- Breeding males will typically have a red flush on the lower head, body, dorsal and caudal fins;
- Cross bars may disappear in adults, but the Tilapian spot remains.

Distribution

- Widely distributed and introduced into several inland waters in Liberia, including St Paul River;
- This is a species that may have been introduced or escape from an aquaculture facility.

Max Recorded Length

- Standard Length = 60cm.

4.5 PH (*Tilapia brevimanus*)-018

Key Identification Points

- Body rather elongate;
- Yellow-grey in colour with 8 or 9 dark cross bars on back and sides;
- A dart pre-orbital band running from eye to corner of mouth;
- A midlateral longitudinal band sometimes present;
- "Tilapian" spot well visible;
- Pectoral fins transparent, pelvic greyish, darker anteriorly;
- Dorsal, anal and caudal fins greyish but dorsal and caudal marked with light spots;

Distribution

- Known from the middle and lower courses of coastal rivers, from Guinea Bissau to the River Cess in Liberia.

Max Recorded Length

- Standard Length = 30.2cm.

4.6 PH (*Tylochromis jentinki*)-019

Key Identification Points

- This species is distinguished from all other *Tylochromis* occurring in West Africa, by the presence of three scale rows (against two) between the upper lateral line and the anterior part of lower lateral line;
- Males yellowish with some golden-red scales, females greyish-green against a silver background;
- Dorsal fin marked in both sexes with dark lines forming light-meshed network;
- Juveniles have cross bars on sides which tend to fade or disappear in adults.

Distribution

- Found from the Gambia to the Tano (Ghana).

Max Recorded Length

- Standard Length = 27cm.

4.7 PH (*Tylochromis leonensis*)-020

Key Identification Points

- Distinguished from all other West African Tylochromis by the presence of two scale rows between the upper lateral line and the anterior part of lower lateral line;
- Number of lateral line scales: 38-42.

Distribution

- Species exists from the Kogon River in Guinea to the Bia River in Ivory Coast.

Max Recorded Length

- Standard Length = 21.9cm.

4.8 PH (*Coptodon louka*)-021

Key Identification Points

- Head and body mid to dark olive-green dorsally, paling over the flanks;
- Dorsal fin olive-green with a thin red margin and white to grey dark oblique spots on the soft rays; caudal fin; spotted on dorsal half and red or yellow on ventral half.

Distribution

- Throughout Africa following introduction for weed control and aquaculture;
- Found in rivers of Sierra Leone and Liberia up to R. Lofa.

Max Recorded Length

- Total Length = 45cm.

4.9 PH (*Coptodon coffea*)-022

Key Identification Points

- Top of snout and head grey to greyish-green, upper lip and corners of lower lip bluish-green; A dark bar from eye to corner of mouth;
- Scales on sides with a dark bar at base, dorsal scales dark-edged and a lighter (greyish-green) centre.

Distribution

- Species is only known from the watershed of the St. Paul, Liberia.

Max Recorded Length

- Standard Length = 12.2cm.

5 Alestidae

5.1 Leopard Fish (*Hydrocynus forskalii*)-023

Key Identification Points

- Two scale rows between each lateral line;
- Dorsal-fin origin at same level as or slightly before, pelvic-fin insertions;
- Body with distinct longitudinal dark lines following scale rows;
- Anterior part of anal fin and lower caudal fin lob bright red/ orange;
- Tips of dorsal fin and adipose fins black and fork of caudal fin black-edged.

Distribution

- Widley distributed in West Africa.

Max Recorded Length

- Standard Length = 55cm.

5.2 White Fish (*Brycinus brevis*)-024

Key Identification Points

- Snout projecting only slightly beyond low jaw;
- Dorsal-fin origin at about midpoint of space between pelvic-fin insertions and anal-fin origin;
- Clear eye;
- Back uniformly brown, sides silvery, belly white;
- Deep bodied (standard length less than three times the body depth).

Distribution

- Southern Ghana and southern Nigeria.

Max Recorded Length

- Total Length = 22.7cm.

5.3 White Fish (*Brycinus macrolepidotus*)-025

Key Identification Points

- Dorsal-fin origin behind level of pelvic-fin insertions;
- Back greenish, belly white; sides sometimes with an orange-coloured longitudinal band running from gill cover to caudal find;
- Red spot present in eye.

Distribution

- Occurs almost throughout intertropical Africa.

Max Recorded Length

- Standard Length = 53cm.

5.4 White Fish (*Bryconalestes longipinnis*)-026

Key Identification Points

- Black line along caudal fin and caudal peduncle, red highlight to upper iris.

Distribution

- Atlantic coastal fringe of West Africa from Gambia to Congo.

Max Recorded Length

- Standard Length = 14.1cm.

6 Schilbedae

6.1 Flat Cat (*Schilbe micropogon*)-027

Key Identification Points

- Species has reduced mandibular barbel, the inner pair often being rudimentary;
- Adipose fin always present.

Distribution

- Been collected in the lower courses of the rivers Geba, Tominé, Fatala, Jong, Loffa, Volta and the Cross.

Max Recorded Length

- Standard Length = 28.7cm.

6.2 Flat Cat (*Schilbe mystus*)-028

Key Identification Points

- Adipose fin always present;
- Head and back dark brown;
- Brownish later bands above and below lateral line, above and along anal-fin base, and along anal fin margin;
- Dorsal fin, pectorals and pelvic yellowish, first two often mottled.

Distribution

- Found in the river basins of St Paul, St John, Cess, Cavally, Sassandra, Tano and Pra.

Max Recorded Length

- Standard Length = 30cm.

7 Notopteridae

7.1 Plank Fish (*Papyrocranus afer*)-029

Key Identification Points

- Head with a concave profile;
- Generally brownish, caudal-fin margin lighter;
- Specimens can appear with small dark spots or a striped, marbled pattern.

Distribution

- Occurs in the upper Niger, Senegal, Gambia, the majority of coastal basins.

Max Recorded Length

- Standard Length = 65cm.

8 Claridae

8.1 White Belly Catfish (*Heterobranchus isopterus*)-030

Key Identification Points

- Greyish dark-brown to dark brown on back and sides, pale brown on bellow;
- Some individuals show a marbled colour pattern;
- Split dorsal fin;
- Caudal and adipose fin uniformly coloured.

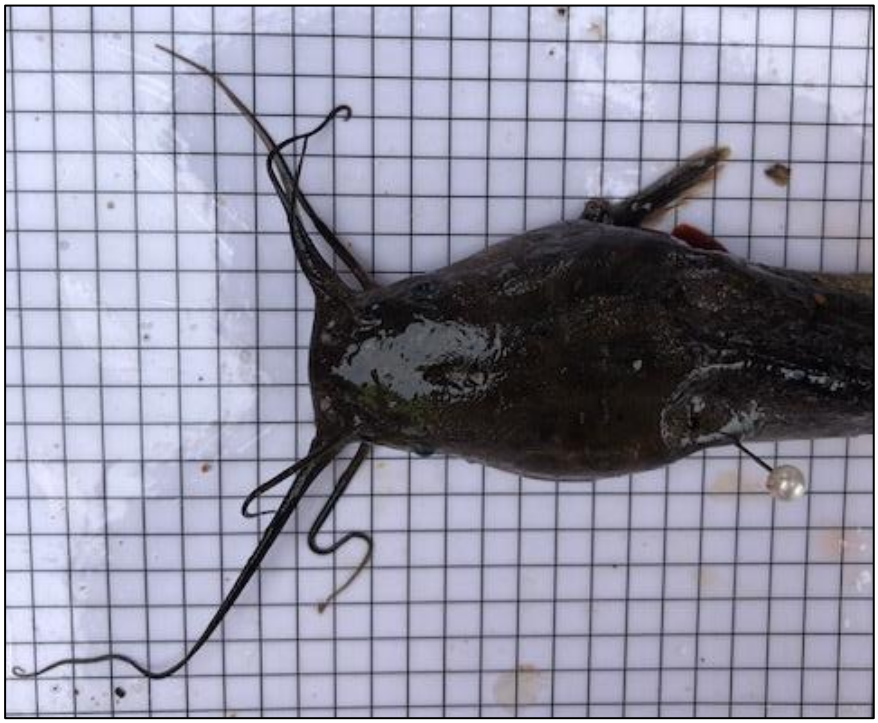
Distribution

- Found in coastal basins, from Guinea to South-eastern Nigeria.

Max Recorded Length

- Total Length = 61.5cm.

8.2 Black Catfish (*Clarias salae*)-031



Key Identification Points

- Body strongly elongate;
- Head very short;
- Brownish-black on back and sides, light brown on belly.

Distribution

- Known from the lower reaches and the delta of the Niger and Cross basin.

Max Recorded Length

- Total Length = 23cm.

9 Malapteruridae

9.1 Electric Catfish (*Malapterus electricus*)-032

Key Identification Points

- Body fusiform; head deep and cylindrical;
- Back tan or occasionally light grey, belly light tan;
- Back and flanks marked with scattered spots and large blotches;
- Caudal with dusky bar, a pale basal crescent and clear distal margin;
- Shocks when handled.

Distribution

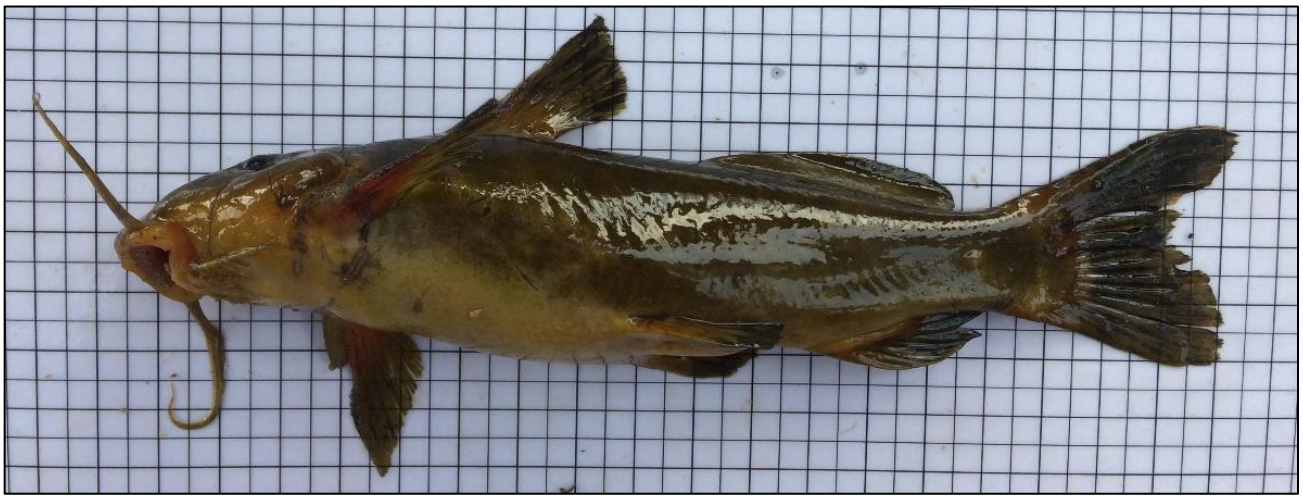
- Found In smaller southward flowing basins in West Africa.

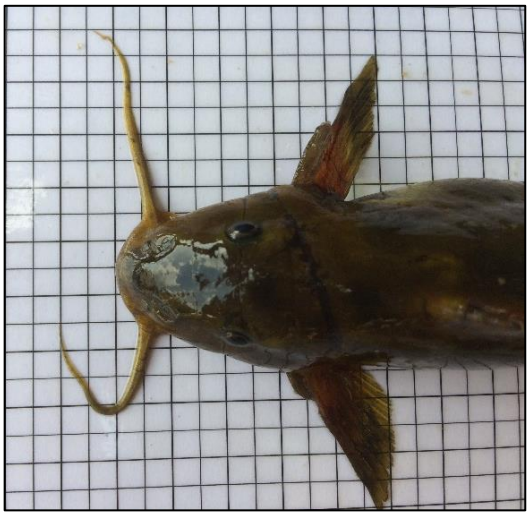
Max Recorded Length

- Standard Length = 50.2cm.

10 Mochokidae

10.1 Yellow Catfish (*Synodontus thysis*)-033





Key Identification Points

- Maxillary barbels shorter than head, unbranched and with tubercles, but with broad, dark brown basal membrane; outer mandibular barbels with few, short, thin ramifications;
- Adipose fin rather long, but very long and distinctly separated from rayed dorsal fin;
- Body more or less uniformly blackish on back and sides, ventral areas light;
- Fins dark brown.

Distribution

- Found in little Scarcies and the Jong.

Max Recorded Length

- Standard Length = 22.9cm.

10.2 Yellow Catfish/Drama (*Synodontis waterloti*)-034

Key Identification Points

- Maxillary barbels branched, longer than head;
- Ground colour rather light with darker marbling's on back and sides.

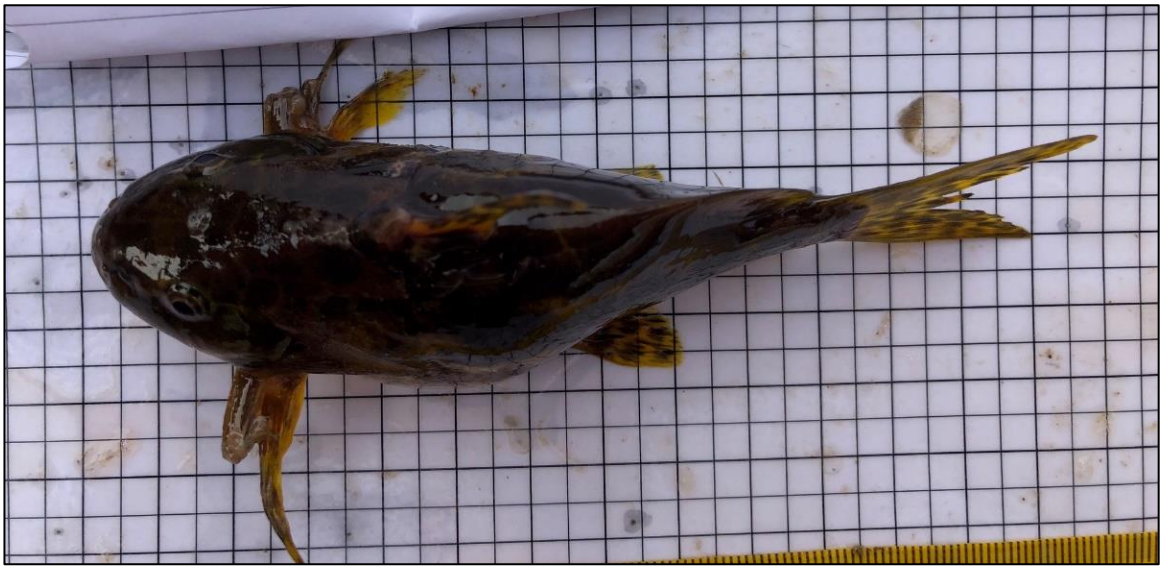
Distribution

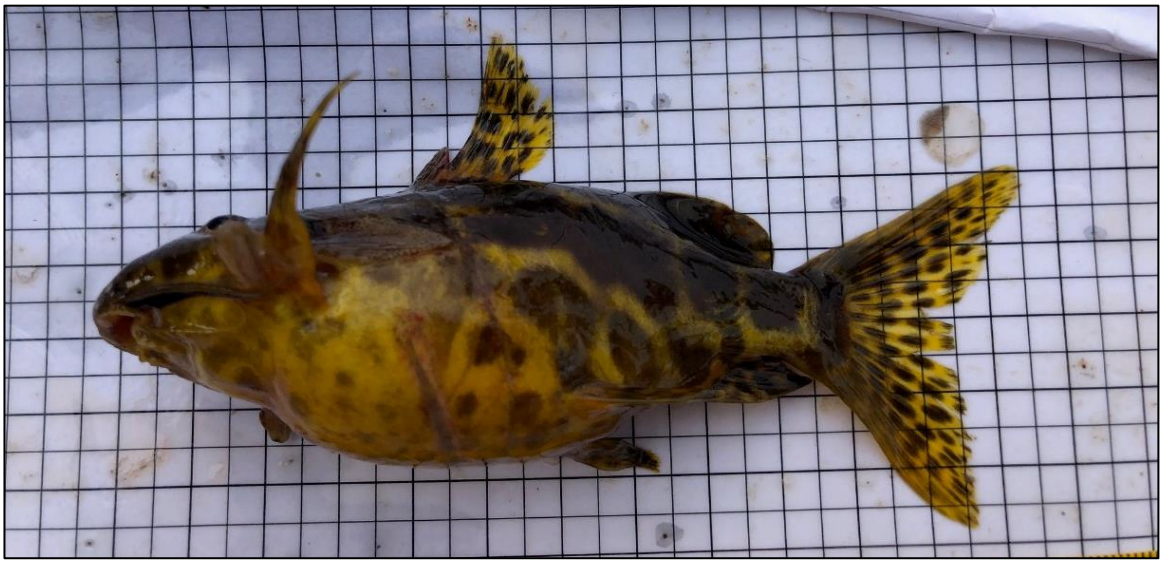
- Basins of the Konkoure, Kolente, Jong, Mano, St John, Cess and Ofin.

Max Recorded Length

- Standard Length = 14.1cm.

10.3 Yellow Catfish (*Synodontis tourei*)-035





Key Identification Points

- Rather dark with a network of more or less distinct light wavy bands;
- Fins with well visible spots aligned in bands.

Distribution

- Upper Senegal and in Guinea.

Max Recorded Length

- Standard Length = 8.5cm.

11 Lutjanidae

11.1 Grouper (*Lutjanus goreensis*)-036

Key Identification Points

- Body stocky, head pointed with an abrupt dorsal profile;
- Back vermilion red, becoming bring pink in large individuals and fading progressively to whitish on belly; juveniles more or less uniformly brownish.

Distribution

- West Coast of Africa, in the Gulf of Guinea and on the Cape Verde Islands.

Max Recorded Length

- Standard Length = 80cm.

12 Anabantidae

12.1 Klin Klin (*Ctenopoma kingsleyae*)-037

Key Identification Points

- Body deep and oval, head and snout blunt; jaws only moderately protrusible;
- Body, head and fins are medium grey or brown;
- Dark spot marks the base of the caudal fin;
- Paired fins are often unpigmented.

Distribution

- Species is distributed widely in forested regions of West Africa.

Max Recorded Length

- Standard Length = 18.2cm.

13 Hepsetidae

13.1 Pipefish (*Hepsetus odoe*)-038

Key Identification Points

- Dorsal fin located between pelvic fins and anal fins;
- Back brownish, belly white;
- Scales on sides dark-edged, forming a pale-meshed, dark network;
- Usually there are light dark bands radiating backwards from the eye;
- Adipose fin black;
- In adults the unpaired fins are furthermore marked with small black spots.

Distribution

- One of the most widely distributed west African species.

Max Recorded Length

- Standard Length = 44.5cm.

14 Polynemidae

14.1 Butternose *(Polydactylus quadrifilis)*-039

Key Identification Points

- Body moderately long and compressed;
- Snout very short, blunt and prominent, mouth inferior;
- Two widely separated dorsal fins, first with 8 flexible spines, the second with one;
- Pectoral fin inserted very low on body, threadlike filaments 4 in number;
- Body uniformly silvery, greyish on back, shading to whitish ventrally;
- Dark blotch often present on gill cover.

Distribution

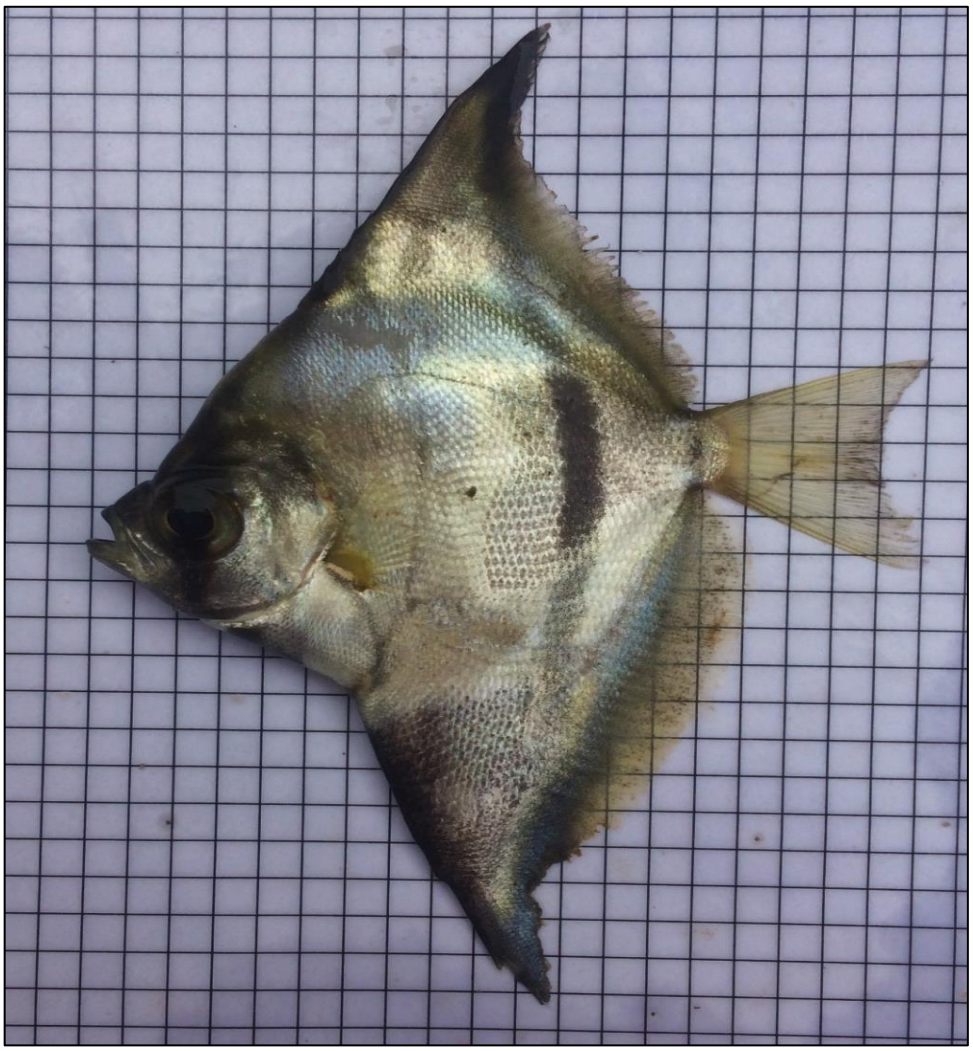
- Known from tropical Eastern Atlantic, from Senegal to Angola. Is occasionally caught in estuarine and freshwater environments.

Max Recorded Length

- Total Length = 200cm.

15 Monodactylidae

15.1 Pumpkin Fish (*Monodactylus sebae*)-040



Key Identification Points

- Body very deep (depth greater than body length) and strongly compressed, anterior profile very steep;
- Head small, eyes large; mouth small, oblique;
- Dorsal and anal fins long-based and very high anteriorly;
- Silvery grey, with four soot-coloured vertical bars, more distinct in you individuals.

Distribution

- West African coast. Very common in estuarine and lagoons, and sometimes in lower course of rivers, occasionally ascending over long distances into freshwater.

Max Recorded Length

- Standard Length = 15cm.

16 Mugilidae

16.1 Mulley (*Liza falcipinnis*)-041

Key Identification Points

- Body long, narrow, reaching its greatest depth at level of anal fin;
- Origin of first dorsal fin equidistant from snout tip and caudal-fin base;
- Sides silvery, back darker; fins uniformly light grey; black spot at base of pectoral fin.

Distribution

- Common in lagoons and estuaries from Senegal to Congo;
- Also found in freshwater.

Max Recorded Length

- Standard Length = 41cm.

17 Gerreidae

17.1 TF (*Eucinostomus melanopterus*)-042

N.B. Caudal fin is extensively damaged in this image and therefore does not depict its normal condition.

Key Identification Points

- Body fusiform and compressed;
- Snout pointed; mouth strongly protrusible;
- Dorsal fin deeply notched;
- Back green-ish, sides silvery.

Distribution

- West African coast, from Senegal to Angola. Can be found near coast, in coastal lagoons or lower courses of rivers.

Max Recorded Length

- Standard Length = 23cm.

18 Elopidae

18.1 Tempound (*Elops senegalensis*)-043

Key Identification Points

- Spindle-shaped fishes, oval in cross-section;
- Eyes large;
- All fins spineless;
- Single dorsal fin positioned about mid-length of body;
- Back greyish-black, sides brilliant silvery. All fins pale, with a yellow tinge and broadly edged with dark grey.

Distribution

- West African coast where they may enter lagoons and river courses.

Max Recorded Length

- Standard Length = 90cm.

19 Clupeidae

19.1 Gbapleh (*Pellonula spp.*)-044

Key Identification Points

- First pre-pelvic scute placed, depending on species, before or behind base of first pectoral-fin ray;
- Lower jaw prominent or as long as upper jaw.

Distribution

- Widely distributed in freshwater environments.

Max Recorded Length

- Standard Length = 10.2cm.

20 Carangidae

20.1 Cavally (*Caranx hippos*)-045

Key Identification Points

- Body elongate and moderately compressed;
- Snout short; eyes with a well-developed adipose eyelid;
- Hind end of upper jaw extending to, or beyond, level of posterior eye margin in adults;
- Back greenish to bluish or bluish-black, sides silvery white to yellowish or golden;
- Black spot on pectoral fins in adults.

Distribution

- West African coast. Juveniles often found in brackish waters, entering lagoons and lower courses of rivers.

Max Recorded Length

- Standard Length = 101cm.

20.2 Cavally (*Trachinotus teraia*)-046

Key Identification Points

- Body short and deep;
- Snout rounded, mouth small, the maxillary reaching to below hind margin of pupil;
- Two dorsal fins- first with 6 spines;
- Lateral line arched over pectoral fins;
- Back bluish-grey or greenish, sides silvery, without distinctive markings;
- Fins dark; lobes of dorsal, anal and caudal fins darker to black.

Distribution

- West coast of Africa- often enters brackish water for reproduction and ascends far up the lower course of rivers.

Max Recorded Length

- Standard Length = 61cm.

21 Haemulidae

21.1 Grunter (*Pomadasys jubelini*)-047

Key Identification Points

- Body oblong and compressed, not very deep;
- Snout short and pointed;
- Deep groove above maxilla;
- Caudal fin slightly forked;
- Silvery, with round, dark brown and irregularly scattered spots following scale rows on back sides;
- Dorsal and caudal fins grey; dark sport on operculum.

Distribution

- West coast of Africa- lives in coastal water and may occasionally enter brackish waters where it breeds and estuaries and even freshwater.

Max Recorded Length

- Standard Length = 60cm.

22 Gobidae

22.1 Sand Fish (*Gobidae spp.*)-048

Key Identification Points

- Gobidae are small to medium size, slightly compressed fishes;
- Head rounded or depressed, eyes close together, in a dorsal or dorso-lateral position.

Distribution

- Widely distributed across West Africa.

Max Recorded Length

- Standard Length= 9cm.

23 Atyidae

23.1 Botoba (*Atya gabonensis*)-049

24 Palaemonidae

24.1 Craw Fish (*Macrobrachium vollenhovenii*)-050

* Orange mass indicates a berried (carrying eggs) female. This colouration will not be observed in male or non-berried female specimens.

References

The most significant feature of the fish fauna of Liberia, along with Sierra Leone and Western Guinea, is that it forms a very distinct eco-region, the Upper Guinean, bounded by the Guinea Highlands, Mount Nimba and the 2500mm/year isohyet. It is naturally a region of high forest surrounded by dry savanna with a high degree of endemic species found nowhere else. There have been ad hoc collections across the region, most notable by Thys van den Audenaerde (1967) who collected through Sierra Leone and Liberia and gave detailed descriptions of key species, many of which were described for the first time. Information from these collections was brought together by Leveque and Paugy (1984) who produced the first comprehensive identification guide to the fishes of the region. This information was also included into the definitive list of freshwater fishes from all parts of Africa, the Check List of Freshwater Fishes of Africa - CLOFFA (e.g., Daget et al.1991).

Based on CLOFFA, further surveys and museum records, check lists have been produced for Liberia and Sierra Leone (Paugy et al. 1990) and the only complete ID guide which includes Liberia and Sierra Leone is the two-volume work by Paugy et al. (2003). These show the considerable similarity between the fish species lists in the rivers of Liberia and Sierra Leone. This has been further expanded and updated in (Payne 2018). The update of the checklist for the region (Payne 2018) highlights the changes in nomenclature in recent years. This is particularly true of the tilapias. Recent work on their molecular genetics has led to a complete re-appraisal of the group such that the genetic name 'Tilapia' is now restricted to very few species, none in Liberia (Dunz and Schliewen 2013). This is particularly relevant to Liberia and Sierra Leone since their small rivers contain more tilapiine species (7-8) than any other major river or lake basin in Africa and which we now find includes at least four different genera.

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