

Fishes

4405 M

1.2.3 m

Se

wa

20

wa

ad

4.5.6 m

7.8 m

la

sp

9. m

10. m

11. m

12. m

13. m



1. 2. 3. macleod. purchased in the market at  
Teneriffe, Canary Is., June 9. 1909. There  
were many of this kind on sale, and also  
2 or 3 large fishes, at least 4 feet long,  
with small dorsal  
and

Mr. Nichols. —

4. 5. 6. m

Is., June 9. 1909.

7. 8. m

Is., June 9. 1909.

a

medium sized

spe

s. 7.

Thank you  
kindly.

9. m

Is., June 9. 1909.

M. L. E.

10. m

Is., June 9. 1909.

11. m

Is., June 9. 1909.

12. m

Is., June 9. 1909.

13. market, Teneriffe, Canary Is., June 9. 1909.

1. 2. 3. mackerel, purchased in the market at  
Teneriffe, Canary Is., June 9. 1909. There  
were many of this kind on sale, and also  
2 or 3 large fishes, at least 4 feet long,  
with the same numerous small dorsal  
and anal fins (Dunny?)

4. 5. 6. market, Teneriffe, Canary Is., June 9. 1909.

7. 8. market, Teneriffe, Canary Is., June 9. 1909.  
A number on sale. We took medium sized  
specimens. Watercolor of No. 7.

9. market, Teneriffe, Canary Is., June 9. 1909.

10. market, Teneriffe, Canary Is., June 9. 1909.

11. market, Teneriffe, Canary Is., June 9. 1909.

12. market, Teneriffe, Canary Is., June 9. 1909.

13. market, Teneriffe, Canary Is., June 9. 1909.

14. 15. Market, Freetown, Sierra Leone  
June 14, 1909. Color, belly white, sides  
silver, back dark gray. Iris silver.

16. Matadi, Congo Belge. June 28, 1909.  
Dropped by a vulture.

17. Near Kwamouth, Congo Belge, about  
July 15, 1909. General color, silvery, 8  
dark stripes on each side. Tail rosy, post-  
erior border blackish. First dorsal fin  
rosy, second dorsal black. Pectoral and  
pelvic fins yellowish. Anal fin yellowish  
red at tip. Iris silvery with a reddish  
tinge above.

This fish was brought to us, on the  
steamer, by a negro. It had evidently  
tried to swallow a small fish with  
very sharp pectoral fins, and this little  
fish was still in its mouth, with its  
two spiny fins sticking thru holes  
just behind the larger fish's lower jaw.

18-19. Mistandingu, near Bolobo, Congo Belge.

July 16, 1909. General color silvery, the posterior edge of each scale with violet iridescence. Fins grayish. Tail grayish, a longitudinal black mark down the side. Iris silvery, with a reddish tinge above.

About ten of these little fish were swimming about in shallow water, & I shot two of them. Their tails were frayed out, possibly from disease.

No 20-21

July 27.

~~July 27~~ <sup>July 27</sup>

Two small fish like the one swallowed by No 17. General color dark brown with darker markings irregularly distributed. Dorsal fin yellow-brown near its base, also anal fin. In the larger specimen, anal fin in posterior third, trace of yellow <sup>as the caudal fin</sup> ~~white~~ <sup>white</sup> below the mouth. Whitish marks a trace of fin. Iris above dark below with a few whitish spots. Larger specimens were seen about 10.2 miles long.

<sup>2/</sup>  
near Oudho 5 small fish (2 different) ~~Orange~~  
July 30/09 at board in the evening -  
no colors - were put in  
No 22-27 alcohol at once.

Stanleyville a number of small fish  
Aug 21/09 they were brought to us in  
No 28. the evening - no colors - were  
put in alcohol at once  
lost - tube No 28.

Ngayu, Polypterus, caught  
Dec 19/1904 in the Ngayu - River  
No 29. in a fish trap. The  
skull has been damaged  
by the native fisherman.

Dec. 25/09, polypterus caught by  
No 30. the same natives.

Batwaka Dec. 29. catfish? above gen.  
No 31. col. gray with a slight greenish  
tint, facored with blackish  
irregular markings, ventral  
side pinkish white as  
pelvic and pectoral fins.  
The anal fin on its base



Bafnaboka Dec 29/1909.

No. 31. pinkish. the rest pinkish  
gray. Caudal fin grayish  
(light colored) the edge of  
the caudal fin is salmon  
red, dorsal fin same color  
as body above (gray with  
slight greenish tint), but  
with lighter edge. Tentacles:  
~~at~~ the upper ones grayish  
the lower ones pinkish. They  
can be straightened to the  
very tip when the fish is  
alive. around the mouth  
and sides of mouth a light  
red. pupil somewhat  
elongated, iris outside  
grayish, towards pupil a light  
silvery tint <sup>(near yellowish white)</sup> the ~~iris~~ <sup>iris</sup> fringed by gray  
rays. caught by a native  
fisherman in the Repoko River.

No 32. catfish, same size, same  
color, caught in the Repoko  
River. ~~much like No 31~~

Batna hoka Dec 29, 1909

- No 33. small fish, with long tentacles,  
all of which are carried forward,  
can be straightened to the  
very tip, above & medium  
brown, with darker markings  
with many whitish yellow  
spots, ventral side yellowish  
white, near pectoral fins  
bluish white, lower jaw  
pinkish with black. anal  
fin has a brownish <sup>like pectoral fin</sup> edge. K.  
The caudal, dorsal & pectoral  
fin brownish like body.  
Only the two lower middle  
tentacles are light gray  
the others brown/darkish  
the incisgrayish brown. The  
ratnics always cut the ~~the~~ spikes  
of the pectoral fins, as they are  
afraid to injure themselves.
- No 34. small jar, containing a  
number of small fishes.

Medje  
No 35.

No 36.

No 37.

No 38.

No 39.

No 40.

Medje. Jan 24/1910.

No 35. 1 small fish general col.  
dark gray, snout pinkish  
on the sides somewhat  
pinkish. iris silvery.  
fins darkish. on both sides  
of head below and above the  
eye <sup>pale</sup> yellowish

No 36. 1 long fish, gen col. above  
brownish mottled with  
pale yellow, lower side  
pale yellowish.

No 35 & 36. have been  
caught in the Nava

May 20/1910  
No 37. 2 small fish, caught in one  
of the affluents of the  
Nepoko-River - in a test-tube  
with alcohol.

Niangara Nov. 1910.  
No. 38. 1 large fish - puffer - taken in  
the Nelle. - The natives said  
that only the older people eat  
the fish after having it skinned

No. 39. Three surgeon-like small, slender  
40-41. fish - from the Gada or its affluents

Niagara Nov. 1910.  
No 42-43-44-45-46-47-~~48~~, ~~Seper~~  
small fish from the Gade or  
its affluents.

No. 49-50-51-52-53. - from the Gade  
five small fish with dark <sup>red</sup> lines  
that show a roundish enlargement  
in the middle of the bar.

No. 54-55-56-57 four small  
fish that show faint gray bars  
(vertical) 9-

No 58-59-60. three small fish with  
a broad horizontal dark gray  
marking

No 61-62 two small + (one very small)  
catfish-like fish.

No 63-64. 2 small fish - big headed with  
caudal fin directed downward.

No. 65-66 two small fish - large scales.  
all the above fish from No 49 to 66  
are from the Gade-River.

~~Anguilla~~ No. 67-68-69. three fish taken in the Niagara  
gen. col. <sup>on back</sup> above. greenish brown  
with many irregular dark



Sketches, all the scales show  
a metallic silvery lustre,  
sides silvery with a tinge  
of yellow ventral surface  
whitish, between pectoral  
fins pinkish. Head above  
brownish, side silver  
below slightly pinkish.

iris silvery above a ~~dark~~  
<sup>gray</sup> area. about the round pupil  
a silvery ring. The pectoral,  
ventral and caudal fin salmon  
red. front dorsal fin pale  
gray with pink and darker  
stripes, second dorsal fin  
upper one vivid dark, then  
yellowish ~~and~~ passing  
over to pale gray. The caudal  
fin is whitish (slightly gray)  
with dark stripes.

The smaller specimen is on the  
back greenish gray.

no. 70-72 two feet, taken in the Surge



Orange Jan 30/1911.

No 70-71.

general color on back dark purplish gray, but the back is covered by a pale yellowish slimy surface which changes to pinkish to yellow. Sides purplish gray passing over to pinkish and white on the ventral surface.

The head above pale greenish yellow the sides pinkish dotted with minute dark purplish gray spots. The lower jaw on the pink <sup>greenish</sup> yellowish head below often with whitish.

The whole fish is covered by a slimy skin which covers even the eyes; the iris is ~~red~~ silvery gray with darker edge. The pectoral and ventral fins are pale at their base a small portion near the middle shows yellow tints; <sup>very</sup> the tips pinkish, the edges gray. The caudal fin

near the anterior base pale  
gray, the rest dark brownish  
with grayish edge. The  
caudal fin dark gray, the  
dorsal fin anteriorly yellowish  
posteriorly brownish.

No. 72-73. Two large fish, from the same  
above dark gray with very pronounced  
tinge of purple towards the second  
dorsal and caudal fin, on the  
pale greenish yellow with  
a large dark area from behind  
the head to the middle of  
body, ventral side yellowish  
or rather covered with  
a yellow shining surface.  
There is a dark area above and  
in front of the ventral fin.  
The head as well as the fins and gills  
are covered (like the whole fish)  
with a yellow shining that  
produces a greenish brown  
lath, on the sides of the head

Amur Sam 20/1911.

No 72-73 Both the area behind the head situated between the projecting bony plates, the area behind the first dorsal fin, across and somewhat below the second caudal fin, the sides near the tail are <sup>marked</sup> ~~covered~~ ~~by~~ with irregular darker spots. The iris is brownish with

No 74.

being large, about the size of pale gray <sup>color</sup> ~~color~~ edge similar fish to preceding, <sup>general</sup> ~~general~~ above dark gray, on the sides there is much <sup>irregularly distributed</sup> ~~white~~ between the dark gray, the ventral side is whitish. The head above dark gray, but it appears yellowish as it is covered with yellow slime. The mouth is pale yellowish the barbules are darkish, slight near the base. The pupil is vertically slightly elongated, the iris about pupil whitish passing gradually over to the dark gray

Young Jan 30/1910.

No. 74.

color near the edge; the  
pectoral fins near their  
base <sup>celadon</sup> whitish above darkish  
the ventral and anal fins  
are much paler near the  
edge. The caudal fin  
pale gray with dark spots

No 75.

a large flat fish. The back  
is dark brownish as the  
upper surface of the head;  
the head above near eyes  
slightly yellowish, the  
mouth above grayish, the  
sides silvery, below whitish  
the iris silvery, yellowish  
above the pupil (in the upper  
third. Sides above gray  
with darker <sup>irregular</sup> lines, below  
whitish, the head less pro-  
nounced, the sides  
show a <sup>shaly</sup> metallic silvery  
luster, the ventral surface  
is whitish. The fins are  
at their anterior edges brown



Amun Jan 30/1911.

No 75. otherwise grayish with  
lighter edges.

No. 76. Small fish, back above dark  
brown, sides grayish, dark  
gray irregular stripes, ventral  
whitish, the scales  
near the edges lighter on account  
of the minute spiny edges. No  
silvery reflections except on  
sides of head and ventral surface.  
The gill is silvery white.  
The <sup>first</sup> dorsal fin is darker in the  
middle. The pectoral fin position  
near its base otherwise colorless  
like ventral fin. The anal,  
caudal and second dorsal  
are grayish with a tinge  
of green.

No 77. Small fish back greenish gray,  
sides above dark gray, below  
whitish, a blackish area  
near the caudal fin ventral  
surface whitish, strong

No 78.



silvery  
metallic reflections. Head  
above brownish, on the  
sides silvery, below pinkish.  
The second dorsal ~~not~~ base  
dark, rest reddish; the caudal  
and anal fins pale yellow,  
the pectoral fin, near base  
pinkish, the rest colorless  
as ventral fins. The first  
dorsal dark anteriorly,  
a fringe of yellow near  
edge. The iris silvery white  
with exception of the upper one  
third that is yellowish.

No 78.

large fish, above head and  
portion behind the dorsal  
fin dark grey, behind head  
to dorsal fin greenish brown,  
the sides <sup>above</sup> dark greenish  
mixed with light grey  
and the vermilion spots,  
near the caudal fin and  
towards ventral surface

Brunn Jan 20/1911

No 78.

<sup>much</sup>

pale green the ventral  
surface whitish. The head  
above dark gray covered with  
a shine the snout above  
dark gray, in front pale gray  
below yellowish, the sides  
~~near~~<sup>at</sup> gill covers silvery greenish  
below the eyes one or two  
dark purplish gray areas, below  
whitish Iris silvery white  
the pupil is surrounded by  
a yellow red diffused coroll  
the upper third is also yellowish  
red. The caudal fin near  
its base grayish green, rest  
mid fins of carmine red,  
the pectoral fin near its  
base below whitish only  
edge carmine, above above  
dark purplish gray and  
passing over to carmine  
ventral fin near base below  
whitish with a tinge of yellow

No 78.

No 79.

No 78. passing over to gray and then  
carmine, the same gill  
above anteriorly dark  
purplish gray, posteriorly  
near base pale yellowish  
the edges carmine, the  
anal fin near base whitish  
passing over to carmine.

the caudal fin pale rose  
near base passing over  
to carmine, in all the  
fins the bony rays are lighter  
the fins are rounded by skin.

No 79. small fish above and sides  
nearly blackish, ventral surface  
dark grayish, it looks as if  
the whole fish was covered  
with yellow skin that  
has been marked off. Head  
above dark brown or gray  
in front of eye and lower  
lips yellowish below  
whitish; the fins dark gray

Amurgo Jan 30/1911.

no 79

spines considerably longer  
iris about eye light gray  
a dark gray diffused caudal  
mark predominant in the  
upper third, the edges light  
gray.

no 80.

small spiny fish. above  
dark brown sides silvery  
purplish towards the tail,  
ventral surface, silvery  
white. head above brownish  
sides somewhat silvery  
below white with first <sup>and second</sup> ~~caudal~~  
<sup>dorsal</sup> ~~caudal~~ fins marked  
with black about the gray  
pectoral, ventral and anal  
fins a tinge of yellow  
below, above grayish.  
iris silvery, ~~above~~ upper third  
dark. barbules dark gray  
throughout.

no 81-82

two small spiny fish  
head above brownish, with



Small yellowish area ~~(in~~  
~~front)~~ between the eyes,  
lips and underside of  
head pale yellow; whitish  
spots all over the body the ~~dark~~  
fins are striped white,  
~~there is~~ the area from the  
first dorsal to the anal  
fin brownish, the  
rest yellowish or shows  
strong yellow tints. The  
ventral surface silvery  
white with dark irreg. markings  
the bases of the ventral and  
anal fins are yellowish.  
The iris silvery gray, with  
upper third darker. The smaller  
sample has the head yellowish  
with exception of a brown  
area below the left eye and brown  
upper portion <sup>of head</sup> from between  
the eyes backward some of  
the spots are somewhat yellowish



No 83. medium sized fish back brownish  
green passing over to <sup>yellowish</sup> silvery  
~~white~~ white, ventral surface silvery  
white, on the sides <sup>and ventral surface</sup> strong  
silvery reflections. The first  
dorsal fin near base brownish  
green, rest somewhat pinkish,  
second dorsal same col. caudal  
fin pinkish, on the sides  
near caudal fin a dark area.  
~~basal~~ Iris above strong  
yellowish diffused towards  
lower portion. pupil slightly  
<sup>vertical</sup> elongated below.

No 84 - 85 two somewhat flattened fish

No. 86. large fish with dark bands across  
body, rose caudal fin, one specimen  
about 8 cm larger had swallowed  
14 small fish, was good eating

No. 87 - 88. two small fish, somewhat  
flattened, dark crosswise bands  
all the fin reddish especially  
on edges.

- no. 89 <sup>med.</sup> one fish brownish on back  
sides lighter.
- no. 90. one med. sized fish dark  
brown. green above  
silvery on sides, white  
ventral surface.
- no. 91. 5 small fish dark green. gray  
above, sides spotted with  
black, iris silvery.
- no. 92-93 ~~94~~ ~~two~~ small fish light green  
gray above, sides silvery,  
ventral surf. whitish, a  
dark spot near caudal fin.  
another somewhat behind the  
head along the side. iris silvery  
above yellowish.
- 95-96. ~~two~~ small fish, somewhat flattened  
laterally, pale gray above with  
slight greenish tinge, silvery.  
sides white ventral surf. iris  
silvery upper portion reddish.  
small fish above dark brownish,  
sides silvery with dark lined  
markings, ventral fins <sup>not</sup> yellowish.
- 97

Suruga Jan 30/1910.

No 97 markings. caudal fin. has  
much red. iris silvery  
upper portion reddish.  
sharp teeth.

No. 98. small fish, above light grayish  
green, sides silvery with  
dark median line. ventral  
side whitish. iris silvery  
upper portion dark gray.  
flesh dorsal fin somewhat  
yellowish.

The fish from No 67 to No. 98  
were presented by Mr. Mello  
Pibotti, Chef de zone de  
Zoube - Suruga. Twenty  
two species, taken with trawl.

Paradise Feb 8/1911

No. 99-100-101-102-~~103~~ 104 ~~very~~ large, one  
medium and a small incomplete  
back dark green. Gray in front  
of and on the sides. Ventrals  
fin. The scales show distinct  
blue reflections. on the sides

Paradje

No. 99. Skeleton of a Cat-fish (124 cm. long.)

No. 100. Skull of Cat-fish (Same species as preceding)

No. 101. Skeleton of a Cat-fish. (127 cm. long).

No. 102. " " " " (105 cm. " ).

No. 103. " " " " "

No. 104. " " Polypterus.

No. 105. " " " " "

No. 106. Skeleton

No. 107. "

No. 108. "

No. 109. "

No. 110. "

No. 111. Skull.

May 1912

No. 112. Skeleton of a large fish (111 cm.) with externally large sharp teeth.

No. 113. Skeleton.

January-April. 1912.

No. 114 to Polypterus.

155.

Feb. 8. 1911

No. 156.

Back dark greenish gray, in front of and on the sides near the dorsal fin the scales show distinct blue reflections, on the sides (upper portion) same color but considerably lighter; seen from in front the scales show soft blue

Faradje.

and green reflections, the lower portion of the sides becoming nearly whitish toward the ventral surface, with slight greenish reflections; ventral surface whitish. Head above greenish gray, considerably lighter at the nostrils, in front pale grayish blue, below whitish, with gray in the gill openings, at sides soft green with some bluish reflections. Iris dark gray, with an indefinite silvery ring about the pupil. Dorsal fin grayish green with pink at the posterior edge, just below the prolonged rays. Caudal fin grayish green above, elsewhere purplish red, below nearly brown. Pectoral fins greenish gray above, with reddish at edge, a darker area on frontal half. Ventral fins above pale green, with only a slight grayish area, and lighter below. Anal fin pale greenish gray with pinkish at edge.

No. 157

to No. 204. Fish from neighborhood of Faradje, collected mostly during the first four months of 1912.  
nos. 205-206. Two large fish, Faradje, March 1912.

Faradje

No. 207 to 210

No. 210 to 219

No. 220 to 224

No. 224 to 230

No. 231 to 232

No. 233 to 234

No. 235 to 236

No. 237 to 238

No. 239 to 240

No. 241 to 242

No. 243 to 244

No. 245 to 246

No. 247 to 248

No. 249 to 250

No. 251 to 252

No. 253 to 254

No. 255 to 256

No. 257 to 258

No. 259 to 260

No. 261 to 262

No. 263 to 264

No. 265 to 266

No. 267 to 268

No. 269 to 270

No. 271 to 272

No. 273 to 274



Faradje.

Nos. 207 to 215. Polypterus.

Nos 216 to 219. Catfish.

Nos. 220 to 224. Fish with elongated trunk-like snouts.

No. 224-250. Fish.

No. 251 to 2. Fish from Faradje, Sept 10. 1912.

No. 253 to 264. Small fish from Yakuluku River at  
Yakuluku Post, November, 1911. (in alcohol jar)

Nos. 265 to 298. Fish from Faradje, Feb. 1912. (in alcohol jar)

No. 299 to 340. Fish from Faradje, Feb. 1912. (in alcohol jar)

Nos. 341 to 356. Fish from Faradje, Feb. 1912 (in alcohol jar)

Nos. 357 to 380. Fish from Faradje, March 1912 (in formaline jar)

Nos. 381 to 398. Fish from Baramba, March 14, 1912 (in alcohol jar)

Nos. 399 to 424. Fish from Baramba River, near its source.

March, 1912. (in alcohol jar.)

Nos. 425 to 433. Fish from Vanherckhovenille, Apr. 1912 (in alcohol jar)

No 434.

medium Safety-valve jar - Nostril organs of a large narrow-headed catfish. See skull <sup>below</sup> (There is also a complete skeleton of a larger specimen in egg. Photograph of fish.

No. 435.

test tube - small long. fish from the Jaramba River  
Sept. 1911

Paradise. Feb. 29/1912 - March 1912

No. 436-437 The two smallest *Polypterus*  
showing the external gills. These  
& all the others have been  
taken by natives in quiet  
places in the Kungu River.  
They only can be coll. at this  
season (dry season Dec to April)  
when the waters are very low.

No. 438. yg *Polypterus*.

No. 439 " "

No. 440-441-442 Three small fish from  
the Kungu R.

No. 443. small fish " "

No. 444-445-446 Three small fish. Kungu R.

No. 447 yg. elect. cat fish.

No. 448-449-450-451-452. five yg fish " "

No. 453. yg. fish.

✓ No. 454. fish from Kungu / Paradise Dec/1912  
a silvery shine throughout  
on the back & crown dark greenish  
with blue reflections, on the  
side silvery white, over ventral

No. 454  
No. 455.

surface silvery white with the with  
pink reflections. The fins  
transparent gray except the  
ventral fins which are whitish.  
Dors above dark gray, in the  
middle yellowish. Ventrals whitish  
silvery with a darkish <sup>indefinite</sup> ~~light~~  
marking just below the slightly  
elongate pupil. Some  
natives tried to catch these fish  
with nets, each time they pulled  
the nets toward the shore, these  
fish would leap about 4 feet  
beyond the surface of the  
water, they could not get a single  
one. Common close to the boulders  
in the river. Photographs

Nov. 14  
No. 455.

3 7/8 cts long.  
fish from the Kungu River above  
dark green becoming a lighter  
towards the sides of upper  
part of snout. silvery gray  
on sides. The front part  
of head including the ~~snout~~ <sup>snout</sup>

455. <sup>Foradze Nov. 14/1912</sup> grayish silvery. fins grayish  
greenish with pinkish blue  
yellowish ends. pinkish  
near gill covers. Iris pale  
yellowish silvery with gray dis-  
tingued above & behind.

The opening of mouth pinkish  
No. 456. the same fish as preceding  
photograph - TL. straight line  
= 37.5 mm.

No. 457. fish from tongue above  
gray yellowish green, head  
much darker, sides silvery  
gray with pink, sides  
of head grayish dotted  
towards the pinkish white  
underside. Iris gray finely  
dotted with black. Head & back  
covered <sup>as well as</sup> with ~~not~~ eyes covered  
with a transparent shiny skin.  
fins greenish brown  
Photographed with No. 458  
on the same plate

Two other specimens of same  
size & had in their stomachs no  
small shrimp-like larvae (larvae)  
of which I have  
examined several others

No. 457



Paradise Nov. 1912

No. 458 fish from Sanguib, mouth  
down. Upper side grayish brown  
head darker, back with <sup>bluish</sup> silvery  
reflections. Sides silvery with  
~~lateral streaks~~ much reflections. Ventral  
anterior whitish. first dors. fin  
transparent gray with irregular  
dark marking. 2nd dors. fin  
dark gray. caudal fin <sup>upper half</sup> transparent  
pale grayish green. the post 2/3 of  
of the lower reddish. The pectoral  
ventral & anal fin colorless  
transparent. Photograph with No. 459

No. 459 fish from Rebuiga. When  
alive in a basin it would  
spread the pectoral & ventral  
fins always keeping close to  
the bottom. Kettico told us  
it would feed on grass upon  
the rocks submerged.  
back dark grayish green nearly  
black with bluish reflections  
sides dull gray silvery with  
bluish edges of scales. sides of head



San Diego Nov. 1912

759.

grayish blue. Iris dark brown with <sup>fine</sup> silvery ring about the round pupil. ~~dorsal~~ fin gray transparent rays dark in ~~lactinels~~ <sup>lactinels</sup> with the ~~prolongation~~ <sup>prolongation</sup> darkest. Caudal fin brownish with a tinge of red. Pect. fins above dark grayish green, vent. fin above somewhat lighter both pect. & vent. fins below ashy greenish gray.

2 Photographs

Nov. 17.

760.

<sup>black + yellow</sup> flat fish, with ~~extensive~~ <sup>extensive</sup> small scales. Back & crown dark grayish green, sides near back bronzy with blue reflections lower portion of sides silvery with blue reflections. Some golden on lower part of ~~gray~~ <sup>dorsal</sup> ~~cheeks~~ <sup>cheeks</sup>. Iris extremely speckled with dark gray. Fins dark gray, caudal fins somewhat pinkish.

28.5 mm long



Large Nov. 1912.

No. 463, <sup>fish</sup> with prolonged snout.  
at least <sup>dark</sup> greenish brown  
with golden reflections  
on sides, on side of head  
light gray mouth  
greenish white ventral  
surface. purplish gray  
pectoral & ventral fin,  
dorsal fins bluish gray.  
48 cm. long.

Dec. 1912. photograph (alone.)

No. 464. Morynus 36 cm long  
long protruding appendage  
below the mouth. see  
colored drawing

No. 465. same as above

Dec. 1912. Morynus elongated (265 mm long)

No. 466. no prolongation on mouth.  
damaged dorsal fin (antennae)  
photographed on the same  
plate with No. 467. 4473

No. 467. scaleless fish, dark yellowish  
brown with blue reflexion

Paradise 1912 Dec.

out.  
79  
X

No. 467. gradually becoming silvery  
gray on sides & silvery  
white on abdomen.  
Had eaten several small  
wild figs & several grasshoppers.  
(There was another specimen  
which was damaged & was  
opened to see the contents of  
stomach / Photograph on same  
plate with No. 466 & 473

No. 470.

468 469 three small fish  
with spines small on the  
mouth, black line on the  
forked tail. the largest one  
(200 mm long) yellowish on  
ventral surface, the smaller ones

65 mm  
long)  
471)

dirty yellowish brown. Brownish  
with yellowish markings  
on sides, dark on back,  
dark iris. Caught among  
the rocks upon the river banks  
are growing. They are said  
to grow under big trees. Photographed  
on same plate with 472.



Paradise 1912 Dec

No. 471. A small spring fish, w/te doubly serrated spine of pectoral fin, small snokerlike mouth, four small filaments below mouth. Two large long filaments above corner of mouth.

Was alive, jumped out of the dish of water & died a few hours afterwards though he was put back & seemed to be apparently undisturbed. He always kept close to the ground keeping his appendages in continued movements.

No. 472. small spring fish <sup>115 mm long</sup> with ~~large~~ mouth surrounded by a large sucking apparatus. inside of pectoral spine heavily serrated. the spines directed forward. A brownish red the body was a diffusion of brown, yellow & green. Photographed with No. 468 & 469 on same plate.

Paradise

No. 473.

No. 474

Chloroceryle

Small spring fish in the  
mouth of a small fish in the water.



by

10

in Beh

No. 473. a long well developed fish of pale  
gray <sup>or smoky</sup> transparent appearance  
with a curious opening mouth.

see photograph on same plate  
with no. 466 & 467. Said to be  
full grown. 87 mm long.

No. 474 full grown. 87 mm long.  
slender fish with large teeth  
on the edge of mouth. back  
med. brown, with some dark  
cylindrical snout & blue above  
reflexions, sides yellowish eryth.  
near ventral space of fish  
the whole length with few points of blue on the dorsal  
fins & anal, with dark grey  
above (diffused) & anteriorly.

the whole length with grey points, <sup>near ventral</sup> <sup>over face</sup> <sup>in fresh</sup> <sup>orange</sup> <sup>transverse</sup> <sup>in</sup> <sup>markings</sup>  
Dus. of <sup>the</sup> <sup>body</sup> <sup>with</sup> <sup>dark</sup> <sup>grey</sup>

Re round pupil surrounded  
by red. Forefins fin pale translucent  
brown edged with red. second  
small, dors fin black with translucent  
base. caudal fin base in  
the middle dark <sup>upper half</sup> above translucent  
brownish with broad <sup>red</sup> edge &  
fine laminal black edge. lower  
half below ~~to~~ transparent

Another option is to use the services of a small local contractor.

Parade 1912 see

gray edge the rest bright red  
(vertical line). The pectoral,  
ventral & anal fins have  
parent gray at base  
chrome orange at the tips.

Photograph on the same  
plate as no. 475. Length 27 cm

No 475. a flat fish with continuous  
dorsal fin <sup>very irregularly</sup> ~~retracted~~ <sup>port gray</sup>  
with greenish arranged longitudinally  
near ventral side whitish, the  
whole with silvery reflections.  
The dorsal fin transparent  
gray with bright blue  
reflections on apices & bright  
brownish red longitudinal  
marking. caudal fin grayish  
edged with red on lower  
half. Pectoral fin transparent  
gray. ventral & anal fins  
pale blue gray. The former  
with red between the anterior  
spines. behind the head a

forelegs 1912 see

dark yellowish green <sup>to base</sup> above  
in front of eyes dark gray  
sides silvery green <sup>to base</sup> very  
yellowish. some red markings  
between ventral & pectoral fins.  
photograph on same plate

with no 474. Length 19 cm

No. 476 moray eels, small 265 mm.

Photo

No. 477 <sup>independent with photo on plate</sup>  
moray eels, slightly prolonged  
snout, dark greenish with

Photo. bronze 263 mm long.

lots 467 - 477 on the same  
plate (with cover of Kodak tube).

No. 478. same as 474, see color drawing  
in formal. (bank)

No. 479. same as 467. had eaten 5 small  
figs, a beetle. see color drawing  
preserved as skeleton

No. 480. small moray eels with long  
snout. in formal. job

No. 481. eel fish. 26 cm long. (like the  
large on photograph)  
photograph alone.



bridge Dec. 1912  
No 482 *Strominyus* - 44 cm;  
small dark protuberance  
below opening of mouth

photo (with 50s) alone  
No 483. small puffer & dark greenish  
brown with yellow striulation  
below yellow near throat lighter  
caudal fin yellowish & brown  
others transparent. It is 11 cm  
long, measures in normal  
condition 2 cm in diameter  
but blown up 5.2 cm. Resin  
is taken in ~~off~~ out at  
the buccal aperture &  
at through the mouth. Its  
pectoral fins are moved  
very rapidly in undulations  
when in the water. It  
makes a rasping noise with  
its teeth. It can instantaneously  
take normal condition, but  
inflates only gradually.  
It changes considerably its  
color & may become a

38



Senegal Dec. 1912.

No 483 dirty yellowish gray with the  
reticulations only slightly  
indented in form of a line.

The two small protuberances  
near nostrils are floating  
in upward directions when  
swimming. The caudal  
fin is mostly contracted but  
may be spread. The iris is

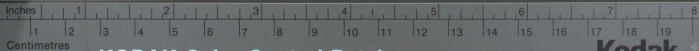
informal-  
lar.

Dec. 1912  
No 484

brown with golden yellow  
ring about the slightly elongated  
pupil (in horizontal direction)  
cafish with spiny dorsal  
& pectoral fin, prolonged second  
dorsal. above dark brownish  
green ~~divided~~ in blotches  
on sides where the pale creamy  
color appears as reticulations.  
caudal, 5 & 4 dorsal dark greenish  
brown with pale reticulation.

belly pale almost white.  
Jaws dark brown with pale brown  
ring about iris.

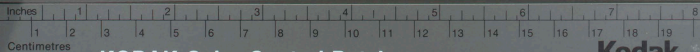
photographed alone on side of a rock.





Paradise Dec. 19 12.

in front, the other two hanging  
down. We kept them for an hour  
in a tank with tadpoles. They  
came to the surface as the tadpoles  
were playing about their bubbles  
they were sucking them in,  
many of the tadpoles nevertheless  
escaped. When taking in  
the food they at once set  
firmly their spring pectoral  
1 and one dorsal fin, moving  
the pectoral fins to 4 fins with  
a rasping noise (fairly loud).  
They lay rapidly, so they are  
remarkably active & much  
feared by the netwies who always  
cut their spines when catching them.  
Usually they keep flat on the  
bottom with pectoral  
fins extended, the anterior  
dorsal fin usually leans  
backward. All these catfish  
are covered when alive with



Paradise Dec. 1914

a thick slime (just like that  
excreted by slugs & snails)  
They are liable of changing  
their colors tremendously  
from dark greenish brown  
to a pale yellowish green  
or pale dirty yellowish  
Reddish pattern frequently  
disappears, the fish looking  
now a practical uniform color.  
(When exposed to the sun  
they turn light either in  
the dark or in perfect sunlight)  
so this change of color seems  
not to depend on the conditions  
of light but rather on physiological  
conditions

492 small spring catfish above:  
medium silvery brown  
gradually turning silvery  
white, fins translucent  
colorless, as edge of mouth  
& barbules.



Jan 21/12. 1912.

493 flat fish, greenish brown above, whitish silvery sides. Photographed alone.

No 494, 495 two moray eels  
Photos on one plate (-box)  
494 long snout w/ 2 small  
teeth, 495 short snout with slender  
protrusion

No 496 - somewhat flattened fish (collected  
like others of the same species  
but had no reds caudal fins  
but grayish <sup>area</sup> looked the faint  
the blackish transverse markings  
was also slightly different in general  
shape.

No. 497. flat eels fish <sup>extremely</sup> combined at  
edges. General color silvery  
gray, many of the <sup>scale</sup> ~~gray~~ with  
dark gray pattern at  
edges. Back dark or  
med. brown. Common  
in schools of fifteen  
to thirty.

see 586

587

Paradise Dec. 1912.

498-499 two small mormyras  
28 cm & 24.5 cm long.

✓ 500. fish with teeth, like pichard  
28 cm long photognathus-like  
back dark brown, with beautiful  
emerald green reflection especially  
on the somewhat paler sides  
ventral side whitish silvery  
first & second dorsal, caudal  
anal fin med. brown dotted  
with dark brown. Gill covers  
silvery & green reflections  
iris dark brown with  
silvery edge except posteriorly  
where ~~this~~ this edge is lacking

No 501. large flat fish with small  
head 51 cm long. fins dark  
slate col. under surface white  
back & sides greenish with  
silvery blue & purple reflections  
top & sides of head dull dark  
greenish, gill covers silvery  
with pale purple reflections  
iris dark brown with some

Sanchez Dec. 1912.

No. 501. red above.

Same fish as photographed  
but was 56 cm long.

Evidently swimming in  
schools as five of them have  
been killed by one explosion.

✓ No. 502. flattened fish with pointed  
Photograph head, 7 bands bluish & dark  
see colored drawing.

✓ No. 503 & 504. fish similar to above  
shorter, but throughout  
darker in color. The latter is  
27 cm long & photographed with no. 506 & 507  
on the same plate.

No. 505 & 506 two flattened fish,  
for col. see drawing silver, with black spot  
below dorsal & black base to  
caudal fin. 16 cm long  
photo with no 504 & 508.

♀ photo.  
160 g 15 1/2 mm  
cong.

No. 507. long roundish fish (wormy)  
gen. col. pinkish gray with  
tinge of brown. On top  
& side of head lines of greenish  
lower side of head yellowish (pale), snout brown &  
green eyes. photo with no. 504 & 506.



Paradise Dec. 1912.

No. 508. 9509 two mormyrus 33 1/2 cm  
929 cm long. the two largest  
ones on the photographs of eggs

No. 510. mormyrus the third largest  
24.5 cm. long on same plate.

No. 511. mormyrus 23 cm long.  
the darkest of all same plate.

No. 512. mormyrus 18.5 cm long.  
roundest snout. <sup>looking towards</sup> same plate.

No. 513. mormyrus 14.3 cm long  
roundest snout. <sup>looking towards</sup> same plate.

No. 514. mormyrus - slight prolongation  
of lower lip 16.5 cm long  
same plate.

No. 515. same as above but more  
roundest profile - same plate.

No. 516. 517. 518. 519 mormyrus like  
No. 510.; the largest 21.5 cm.  
the smallest 10 cm long.

No. 520. a sucker - 16.7 cm long.

No. 521. small mormyrus, with small  
protuberance on downward pointing  
snout. like No.



Farage Dec. 1912

522. *mormyris* - like no. 512

523. 16.2 cm long & 13.2 cm

No. 524 + 525. *mormyris* like no. 513.  
roundish profile without bulging  
lower lip. 13.5 g 9 cm long.

No. 516. *mormyris* like no. 509  
but smaller. 21.5 cm long.

509 g 526 have a more  
slender profile than no. 508

No. 527. *mormyris* long snout  
short protuberance below  
38.5 cm long. a purplish  
blue above, with yellowish  
streaks at certain places  
purplish gray towards & on  
lower side

No. 528. small fish. 11.5 long large  
scales upturned snout,  
large eyes, yellowish above,  
black markings on sides towards  
tail.

529 - 530. two young *polypterus* with  
external gill covers 97 g 89 mm.

foradje Dec. 1912.

531. moraygus 92 mm. long

532. a large containing twelve  
small fish from the Tungu R.  
among them ~~two~~ <sup>only</sup> young moraygus

533. fish, top of head dark green  
sides of head silvery, iris  
silvery tinted with red, back  
dark brown with blue reflections  
sides greenish - white with  
indistinct bluish bands  
ventral surface white with  
silvery reflections all above fin  
grayish with dark spots, anal gray  
pectoral fin pale yellowish  
pelvic & anal fins yellowish  
tipped with light red. 32.5 cm long  
see photograph with fish lake  
no. 502. <sup>the fish of same species 2 goby</sup>

534.

535.

536.

flat fish like no. 502.  
spring catfish spotted  
four small fish from the  
Tungu river, two of them  
had red above on the eye &  
a band on sides with golden reflections

Paradise Dec. 1912.

No. 537, 538, 539. Blue mormonians  
purplish & gray all over  
except on belly where whitish  
blues are common & about  
head which is covered with  
a yellowish slime  
medium snout, prolongation  
of the lower lip. The largest 34.5 cm.

No. 540, 541, 542, small flat fish, large  
scales, somewhat upturned mouth,  
swimming in schools. med. brown  
on back, sides silvery white  
ventral side white, gill covers  
silvery, top of head <sup>med. brown</sup> with a  
tinge of green, iris pale yellowish  
& dark blotch above & below  
Dorsal, caudal & anal fins transparent  
pale yellow, 11 dors. reddish,  
pectoral & vent. fins transparent  
colorless. <sup>The largest</sup> 12 cm long.

No. 543, 544, 545, 546. long slender rounded  
fish with pointed snout  
small transparent pectoral fins



- parade bee 1911
- 543 dorsal & anal fins uniting with  
to the caudal irregular pattern  
546. of dark brown <sup>in lower part of</sup> pink <sup>not unusual border</sup> there of  
on yellowish ~~greenish~~  
the largest 1.8 cm long. see  
photograph of tree.
- No. 547. 548. 549 three small ptychurus  
all incl. the largest one still showing  
rudiments of the external gills - Tot. length 1.2 cm.
- No. 550. small flattened compressed fish  
slimy throughout, light brown  
above.
- No. 551. 552. 553. 554. 555. five small  
mormyru dark purplish, rounded  
snout & long rounded body
- No. 556. mormyru rounded snout  
small
557. 558. 559 560 four small flatfish  
mormyru, straight head & mouth.
- ~~560~~ 561. 562. 563. 564. 565. five small  
mormyru flattened with  
prolonged snout & small  
soft prolongation on <sup>fin</sup> left  
Cover lip 1.45 mm. to 57 mm.



Jan 1912

No 566. small mormyrus, flattened  
with only a <sup>crust long</sup> ~~slight~~ elongation  
on lower lip.

No 567. small roundish foot with  
bumpy snout (6.5 mm. long)

No. 568. seven small fish in  
brown bottle.

No. 569. mormyrus, flattened  
fish. 46.5. 4 mm long.  
Photograph. both numbers.

No. 570. 571. two flattened slender  
roundish fish with pointed  
snout like no. 543.

No 572, 573. two small Polyphemus  
with external gills.

No. 573/574 mormyrus two small  
specimens, flattened, roundish  
head, bulging lower lip.

No. 576. small. catfish, spinous.

No 577. a small elongated catfish  
with winglike pectoral

Photo 9 ventral fins. Gen. col.  
dark greenish above  
pale yellowish on ventral  
130 mm. long. sides.

Snagge Jan. 1913

No. 578. *Norminus* with movable soft  
projection on lower lip,  
when alive held out fairly  
straight, he seems to use  
this process for roughening  
either mud or the algal on  
stones thus securing its  
food. dark purplish  
with green on the head  
& back. two lighter bands  
from between the dorsal  
and fins 157 mm long.

No. 579 a small eel-like 104 mm long

No. 580. & 581. two small *Polypterus*  
with external gills 90 & 74 mm long

No. 582. flattened scaly fish with  
prolonged dorsal fin  
greenish med. brown above  
silvery on sides & belly  
with darker marking line  
on sides. <sup>eyes</sup> ~~eyes~~ <sup>silvery</sup> ~~eyes~~ <sup>iridescent</sup>  
with a tinge of yellow &  
dark gray on the upper side.  
slightly upturned on snout 121 mm long.

Paradise Jan 1913.

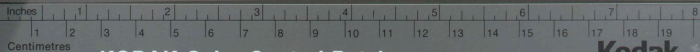
No. 583 & 584 Two cell like fish.  
When alive, the lower jaw  
mouth slightly open, they  
only slightly curve the slender  
snout downward. But otherwise  
take always most graceful curves.  
They seldom seem to keep perfect  
straight. The pectoral fins are  
moved very rapidly when they  
advance & can give a forward  
direction. See intestinal  
worms. Cat. of Invert. No.

One specimen opened had in  
its stomach several (3) nematodes.  
Curved. one 245 & 196 mm long.

No. 585. flattened large scaled  
fish, with upturned snout  
like drawing 223 mm long

No. 586 & 587. Two scaled flattened  
fish like 497.

No. 588. monomys, snout snout  
strongly curved downward  
photograph 330 mm long





Paradise Jan. 1913

589 mormyrus, a long protruding snout.

✓ 590. Photograph. 375 mm long flattened fish, with pointed head, bands across.  
T. length 435 mm.

591. mormyrus, short trunk.

592. 593. Two roundish fish 380/390 mm long with curious bluish opening below like drawing see photograph.

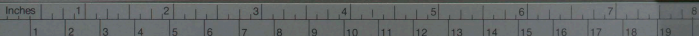
✓ 594. 594. two small fish like above, 155 & 145 mm long, each yellowish brown head above dark gray, sides yellowish except a dark gray longitudinal band in the middle dark above the tail.

595. 596. two small roundish fish, like polyurus 145 & 155 mm.

597. a flat small fish. 105 mm long

598 mormyrus, <sup>fairly</sup> short curved head, only slightly protruding snout.

54



Centimetres

KODAK Color Control Patches

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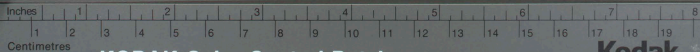
Kodak



Paradise Jan 1913

- 599 small brown bottle with small  
fish caught in swamps
600. test tube with various small  
fish. mormyrid cat fish generic.
601. fish, like photograph of large  
fish, gen col. a dusky brownish  
green, gradually becoming  
silvery on sides & whitish  
on ventral surface, fins  
brownish, except the transparent  
pectoral & the slightly brownish  
pelvic fin. sides of head  
silvery with brown. Iris  
brown bronzy with yellowish  
reflexion. 42 cm long.
- no 602 fish skeleton of a puffer 265 mm
- no 603. skeleton of a polypterus 515 mm  
long
- no 604 fish skeleton of a spinous  
cactus 200 mm long
- no 605 skull of a <sup>and eye near</sup> bat with sharp  
teeth 610 mm long, see  
several photographs of its  
head, mouth open, half open, closed.

55



Jan 1915.

No 606 eel like fish 30 cm long.

No 607 reticulated cutfish

Photo on same plate with 608  
250 mm long.

No 608 <sup>small</sup> scaled fish with prolonged

No 609 dorsal & anal fin, short head

large eyes. brownish green

above & down <sup>halfway</sup> to sides, ventral

surface whitish. crown

dark bluish gray, golden yellow

greenish caudal fin, bases

of dorsal fin dark bluish.

iris golden yellowish TL 237 mm

Photo of taller one with No. 607

610.

large eel like fish large scale

TL 755. length 130 height 245 mm

back & down the sides dark

brownish green, sides pale

ventral surface whitish, side

of head grayish green, iris brown

base of fins beautiful emerald

green edges darken with tips

of greenish brown

~~Photo of fish & species~~  
~~Shore & water formation~~

Photo  
only.

Paradisi febr 1913

No. 611.

Catfish. above a pale yellowish  
brown with dark spots some  
purplish on sides, ventral  
surface 287 mm long  
Photograph with hs.

No. 612.

morungius with long  
curved snout

613.

morungius roundish,  
long

614

glench like hs. 608 small.

615.

a roundish fish resembling  
Polyplocus.

616.

fish scaled, 140 mm long.

see Photograph, greenish brown  
above with blue reflections, sides  
becoming gradually silvery,  
with green & yellowish reflections  
ventral surface white with dusky  
fins transparent with darkest  
crown dusky with dark pattern  
sides of head silvery. Iris  
dusky below with yellowish  
edges dorsal fin prolonged posteriorly

Paraglyph 1913

No 617/618 same fin as above but not  
prolonged dorsal fin, light  
yellowish brown back, silvery  
sides, 9 whitest ventral amples  
dorsal & caudal fins with yellowish  
tints, 2 lateral dark streaks  
<sup>both 111 mm long.</sup>

No 619

*Mormyrus*  
soft short process on  
lower portion of mouth  
TL. 390 mm Photograph.

620.

*Mormyrus*, roundish  
head with protruding chin  
TL. 270. mm Photograph.

621.

*Mormyrus*, roundish  
TL. 391 mm.

✓ 622

small fish redish caudal fins  
some red on dorsal & anal fins  
iris whitish with yellow above  
all water color

✓ 623.

fish resembling above

✓ 624

but shorter & stouter with  
yellowish tints on caudal  
& anal & dorsal fins, iris  
yellowish white with red above



Lanadgeth 1915

a shorter blackish sash near  
caudally in the middle no  
finely dotted spots along its  
side. TL.

No. 625 fish resembling above

No 626 but longer caudal fins  
yellowish on dorsal &  
caudal fins. Iris whitish  
with gray

627 moringans see photograph

628 " " "

629 " " "

630 do. 634 five moringans, similar  
to those above.

No. 635 moringans very long  
curved snout dark purplish  
Photo blue nearly black but  
with a dark green tinge

see photograph TL. 250 mm.

No 636 fish, scaled, up turned snout  
caudal, anal & dorsal yellowish  
transparent, & dorsal red.  
on the back mid. brown; sides

p60

photo

No. 637.

TL 45.  
photo.

638.

639.

640.

grayish; a black marking  
with golden reflexions on  
base of tail. iris yellowish  
with red above, ventral and anal  
slower portion of sides  
silvery. TL <sup>43.5</sup>  
scaled fish with fine reflexions  
brown above; sides silvery  
yellowish; ventral and anal  
silvery; dorsal and caudal  
fins transparent with dark  
gray. this whitish with yellow  
& blackish bar across (ventrally)  
same fish as 636. but dark  
brown back, dark gray  
irregular markings forming  
a lateral band, dark brown  
iris with orange edge above.

Polypterus  
showing still the rudiments  
of external gills TL 200 mm  
fish with rough protuberances  
on snout, yellow on sides

No. 641  
No. 642  
No. 643  
No. 644  
No. 645  
No. 646  
No. 647  
No. 648  
No. 649  
No. 650

Fraser Feb 18/1913

No. 641 *Mormyrus*, short caudal  
snout.

No 642 *Mormyrus* TL 183 Phos -

No 643 " TL 183 mm?

No 644 " 194 "

No 645 " 131 "

No 646 " 152

No 647 small fish with wide opening  
ventral fin, 4 short alveoli with yellowish dots  
not with sharp teeth TL 125

No 648 slender and scaled fish, no dorsal  
fin, 4 short alveoli with yellowish dots TL 83 mm

No. 649. copperish, dark greenish brown  
whitish on abdomen  
with <sup>pale</sup> reddish brown towards  
anal fin, seven rows  
of black dots running  
transverse, besides  
a few black dots behind  
the skull

No. 650 4651 small flat bottle cont. very  
from a *Polyptherus*  
No 650 in alcohol  
No 651. in formaline

Mingara May 1963

No. 652. Mormyrus with pointed  
head & a soft pointed snout  
straight prolongation, 25 mm beyond  
the <sup>upper</sup> lower lip. Top length  
39.2 mm without the prolongation on  
lower lip. Iris silvery  
Bunga, fishes from the

Bomohandi River.

June 16 / 63  
No. 653

Mormyrus, elongated with  
stout snout TL. 487 mm

No. 654

perch TL. 223

No. 655

sort of a perch TL. 268

No. 656

fish with upturned snout large  
silvery scales, broad longish  
band TL. 165

No. 657

a flat fish TL. 170 mm.

No. 658

4659 mm. Mormyrus, small soft  
prickers on lower jaw, gen. scl.  
silvery brownish green with  
golden reflexions on back  
TL. 220                      9 TL. 170



Aug. June 27/1913 <sup>short</sup>  
No. 660. *Mormyrus* with rostr. process  
pointing downward T. 185.

No. 661. Catfish, back purplish brown, towards caudal fin pinkish; crown brownish green; sides <sup>dusky pinkish</sup> ~~yellowish~~ diffused; lower sides brownish & pinkish, many <sup>other</sup> diffused small, ashy yellow spots. lower jaw pinkish, ~~white~~ <sup>silvery</sup> on breast one of the tubercles bifurcate. Tl. 312.

No 662. fish with large scales & up  
turned snout. Fl. 222.

No 663. fish with short mouth & teeth  
back greenish brown  
sides silvery, ventral  
surface whitish. caudal  
fin pinkish with dark  
edge. pect. vent. & anal  
fins transparent, the latter

edged anteriorly with black  
the dorsal purplish on base  
darkish on edge. ~~the~~ dors.  
brownish with transparent  
edge. crown dark brown  
with a few light brown  
areas. sides of head brown  
with greenish & silvery  
reflections below the eyes  
silvery, throat purplish  
white. Iris a bluish black  
with fine golden ring about  
the pupil (slightly elongated  
downward). TL. 234. ~~Length~~ 58

No 664.

fish with large scales  
back light brown turning  
to silvery on sides, whitish  
vent. surface. Iris bright  
yellow ~~the~~ above turning to  
silvery below, pupil small  
elongated downward. tip of  
snout above dark blue gray,  
Crown dark brown.

No 665.

No 666.

No 667.

No 668.

No 669.

No 670.

Amur June 28/1913

Editors brownish with pink  
on edges, anal fins bright  
pink fading away on edges  
back. Dorsal, pectoral fins  
colorless (whitish) the  
pectorals anteriorly edged  
with gray. below the eye  
silvery, lower portion  
of gill covers pinkish.

TL. 284. Height 69 mm.

No. 665. Polyphemus TL. 432

No. 666. Perch - TL. 185.

No. 667. scaleless fish TL. 167.

freckled all over with  
dark gray, with yellowish  
& silvery tints on sides  
head dark brown also spotted.

Thin dark gray

No. 668. fish TL. 272

No. 669. small perch. TL. 153

No. 670. fish, yellowish <sup>longer</sup> with  
five (4) dark band &  
red tipped tail

Brazili June 1913

- No. 671. a/ormosan bottle with 11  
small fish in formalin
- No. 672, 673 674. 675. 676. five  
fish with warty snouts
- No. 677. a small bottle with fish.
- No. 678. perch. dark pinkish gray fl.
- No. 679. perch de'vray gray with greenish  
reflexions. TL. 210 mm
- No. 680. perch somewhat elongated  
a'vray gray with emerald  
reflexions TL. 205 mm
- all three have a dark brown  
iris No. 679. with golden fine  
line around the pupil No. 679 has  
some silvery below No. 680 below
9. ~~that~~ some on the sides TL. 240 mm
- No. 681. a large fish.  
juv. chl. a beautiful pink, each  
scale an emerald green edge.  
the back throughout darker  
somewhat purplish The dorsal  
fin dark blue gray with paler  
areas especially the rays. The tail

No. 6

No. 6

No. 6

No. 6

No. 6

Inches

Centimetres

KODAK Color Control Pa



June 19 '3

dark blue gray somewhat purplish  
neck gray above whitish below  
ventr. grayish paler below  
anal fin dark blue gray  
with lighter base, crown  
above purplish gray, snout  
pale gray & white, cheeks  
white, gill covers gray  
breast whitish, belly whitish  
with few greenish tints.  
iris silvery with pale orange  
tints, pupil elongated below  
see Photograph.

No. 695. Height 22 through. 110.  
in front of dorsal fin

No 682 & 683 two eel like fish

TL. 425. & 457.

No. 684. fish resembling *Polypterus*  
TL. 322

No 685. *Moringanus* elongated  
TL. 305.

No 686. *Moringanus* TL. 315

No 687 1 225.

Range June 1913

No. 688. *Mormyrus* flattened short  
soft process on lower jaw  
TL. 360.

No. 689. *Mormyrus*, flattened, dark  
purplish long curved  
head. TL. 300.

No. 690. *Mormyrus*, curved obtuse  
head, silvery gray  
TL. 260

No. 691. *Mormyrus*, small process  
slightly turned downward  
TL. 215.

No. 692. large scaleless fish, dark blue  
gray on back & crown; silvery  
on sides TL. 415. mm

No. 693 same as above, but covered  
on back dorsal & caudal fins  
as well as on sides with a  
yellowish line TL. 250.

No. 694. same as above, but freckled with  
irregular dark markings spotted  
on line and lower sides  
TL. 170.

- No. 695. Large scaled fish with upturned snout. TL.  
pinkish caudal, I & II dorsal  
& lower portion of anal  
fins.
- No. 696. fish with teeth, (jagged),  
TL. 297
- No. 697. same as above TL. 277
- No. 698. " " " TL. 183.
- No. 699. fish with teeth but smaller  
scales TL. 323.
- No. 700. same as above TL. 218.
- No. 701. " " " TL. 165.
- No. 702. " " " TL. 147
- No. 703. perch TL. 297.
- No. 704. same as above TL. 235.
- No. 705. perch elongated TL. 225
- No. 706. perch short. TL. 205
- No. 707. " " TL. 212
- No. 708. " " TL. 193.
- No. 709. small flattened fish  
TL. 166. -
- No. 710. Large fish, 7 bands TL. 395

70 Runge June 1913  
No 711. same fish as precedent

TL. 340

No 712. fish TL. 310.

No 713. fish TL. 280.

No 714. catfish with seven row  
of black spots dark blue  
gray above, paler on lower  
sides & whitish on ventral  
surface, but <sup>with</sup> exception  
of the ventral surface covered  
with a dull yellowish shine  
which produces <sup>the</sup> greenish  
gray hint of the live fish.

No 715. same as above TL. ~~287~~ 300

No 716. " " " TL. ~~200~~ 190

No 717. " " " ~~190~~

No 718. catfish, bluegray & silvery  
TL. 255

No 719. same as above TL. 28.5

No 719. catfish greenish gray &  
silvery TL. 28.5

No 720. catfish dark blue gray  
TL. 330.



721. *Coffea* TL. 205.

ceffish TL. 205.

422.

cap fish dark greenish gray  
above yellowish on sides  
yellowish on ventr. surface  
but with the numerous  
~~dark~~ blue gray spots above  
TL. 287.

above, yellowish on sides  
yellowish on ventr. surface  
but with the numerous  
dark blue gray spots above  
TL. 287.

yellowish on ventr. surface

but with the numerous

dark blue gray spots above

76.28

No. 723.

caprock l.t.c. 220.

purplish gray above  
greenish gray blotches  
on olive sides, whitish  
belly, dark blue gray  
markings on back of  
crown.

greenish gray blotches

on silver sides, white

belly, dark blue gray

markings on back of

crow.

No 724.

Putters. Tc. 195.

725

a wife <sup>valuable</sup> ~~with~~ <sup>you</sup>

about 20 small fish

No 726.

a large bottle with a pound

12 small fish.

No. 727.

monymus, Tl. 323

sides purplish & juicy

crown, dark greenish

cheeks whitish

Phos.

cheeks white & h

Mungu July 1913.

No 728 Mungu TL. 315

with soft process projecting  
nearly straight. sides purplish  
gray, back yellowish green  
crown greenish, process  
purplish, throat & cheeks  
whitish.

No 729. fish with teeth see photograph  
with open mouth, all the  
teeth are covered with  
a shiny coating. on the  
lower jaw is a triangular  
projection of skin fitting <sup>over</sup> into  
& covering the ~~triangular~~  
depression of the maxillae.  
The iris silvery with yellowish  
tint, some dark brown  
below the pupil TL. 318.

No 730. fish with teeth TL. 365.

No 731 a large pike TL. 270

No 732 mungu, sides silvery  
back gray, crown dark gray  
about the mouth whitish  
iris silvery with some green diffused  
markings TL. 152.

Inches 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Centimetres

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No 733. mormyrus flattened,  
sides purplish, back  
pinkish gray with dark  
gray fine spots dots, about  
mouth, spotted intensely  
with dark gray breast &  
lower sides colorless  
with iridescent reflexions  
iris silvery with dark gray  
on edges TL 112

No 734. mormyrus flattened  
sides silvery with bluish  
reflexions ~~with~~ gray green  
on back with golden  
reflexions. breast white  
lower sides silvery.  
iris silvery with dark gray  
TL 138.

No 735. mormyrus flattened TL 430.

No 736. catfish TL 203. brownish  
on head up to dorsal fin  
with fine dark markings  
brown on back ~~with~~  
on silvery ground



Peru July 1913

No 736 lower sides silvery, tail  
brownish pink, many  
black markings  
ventral surface gelly  
like pinkish. Dors  
dark brown TL. 200.

No 737 catfish TL. 188.

No 738 " TL. 145.

No 739/3 large fish. gen. col. a grayish  
purple, with pinkish  
hints, the greenish bases  
of the scales ~~the~~ interrupting  
tricolor, the crown dark  
blue gray with pinkish ovals  
the tip of head & snout  
whitish, sides of head  
blue gray with pinkish ovals  
the iris silvery with pink;  
the lower sides ~~yellowish~~ white  
the ventral surface  
white. the dorsal fin anteriorly  
gray pinkish on upper  
edges, yellowish ~~white~~, the

No 740  
No 739  
No 740  
No 741  
No 742  
No 743



interstices between rays bluish,  
 the caudal fin gray at  
 base with transition  
 to yellowish & pinkish  
 on edges, the pectoral fins  
 dark blue gray above with  
 the smaller rays yellowish &  
 edges pinkish. <sup>ventral</sup> <sup>anal</sup>  
 fins practically same  
 col. anal fin whitish  
 pink on edges. TL 837 mm  
 height in front of dorsal  
 fin 230 mm. through  
 145 mm.

Photographs only  
 with head.

Poko

July 1913

No 739

No 740

No 741

No 742

No 743

fishes from the Bomokandi R.

monomys rounded head

monomys small obtuse process

monomys rounded head small  
obtus downward process

monomys elongate rounded body

not like picture

Poaka July, 1913  
No 744 safety valve jar with  
more than 20 varied fish  
from the Bomokende River.

No 745. small fish like picknell

No. 746. small fish - mormon

No. 747 a silvery small scaled fish  
with teeth. (bear on photo  
by mistake for 746.) No. 746

No. 283. silvery on sides  
greenish brown above.

had a fishbone  
on the branches

several slight  
cat No. 627. silvery on sides

attenuated of eyes. a number  
of irregular dark gray markings  
(on back greenish lined) on  
upper half, cheeks silvery  
grayish pink, ventral  
surface silvery with pinkish  
tint. Dorsal fin tinted  
yellowish with dark brown  
bars. Tail partly gray with  
black bars. Pectoral fin  
soft orange tint also ventral

20th July

No 747. fin, anal fin transparent  
very slight yellowish tint,  
this silvery dark above  
slightly purplish below  
pupil pointed forwards over.

No. 748. catfish, spiny, gen. col.  
a dusky greenish brown  
with many irregular yellowish  
markings. (beard on photo.  
by mistake 747) TL 247 mm

No 749. poor, dark greenish above  
becoming lighter on sides  
pinkish on lower ventral  
sides. 5 black markings  
forming indistinct  
bars towards the back.

No 750. Monogeneus, roundish TL 425

No 751. Monogeneus, long beak  
curved down ward. TL 255

No 752. fish with red caudal fin TL 208.  
7 (stripes across) dark markings  
a young one of the same species  
(see jar) showed black spots  
on the sides



Poko August 1913. Somokande

- No 753. *mormonis* dark purplish.  
soft process on lower lip  
tl. 212.

- No 754. catfish, gray with dark spots  
TL 152.

- No. 755, 756, 757, 758, 759 are  
perched the largest 212 mm  
long (755) No. 758 & 759 are  
two of a different species, the  
largest No. 758 measures 165 mm

- No. 760. & 761. Celline fish N. 38.3 Q 245.

- No. 762. "dark pinfish gray capfin  
with caudal fin striped  
black TL. 285.

- No 763 beak TL. 285.  
(picture ft. 260. mm. This specimen shows the hexagonal anteriorly serrated <sup>skin</sup> covering <sup>on the upper part of</sup> the bill for the teeth that are surrounded with a shining skin.

- No 764 fish with large teeth Tl. 252.

- No 765. 1 perch with depressions (T4/82)  
in gill covers, see No 758 & 759

- No 766. *Neomyscus* with curved  
beak & flexible



Poko August

process TL. 210 mm.

No 767. large-scaled fish TL. 187 mm  
curved up snout.

No 768. catfish T.L. 36, spiny

No 769. catfish T.L. 23.5, 4

No 770. catfish, spiny, grey TL. 280.

No. 771. moray, flexible  
downward process TL. 235.

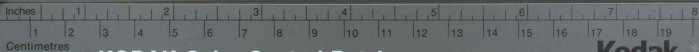
No 772. moray, curved beak  
small boss process TL. 265.

No 773. small bottle with large  
number of small fish

No. 774. small soft process with  
large number of small fish

No. 775. large safety valve jar with  
large number of fish

No 776. catfish, gen. col. <sup>chrome</sup> greyish, ~~above~~  
on very on arid with green  
reflections, ventral surface  
whitish, on mouth pinkish  
on the back greenish,  
behind the first dorsal  
purplish hump over the  
grey, dorsal fins greyish



80 Photo, Aug. 1913.

No 776. caudal, pectoral, ventral  
anal fins somewhat pinkish.  
large eyes silvery about  
the pupil, dark & as  
the scales above are exposed  
transparent like the surrounding  
membranes.

No 777. fish with small beak  
TL. 343 mm

No. 778 same as above TL. 223.

No. 779. mormyrus curved beak  
small process TL. 350.

No 780. mormyrus TL. 315. curved  
beak long flexible process

No. 781. 782. perches TL. 230 mm  
♀ TL. 197 mm.

No 783. mormyrus long curved

Photo beak with small soft  
process TL. 280. mm

No. 784 mormyrus, beak not

Photo so long as in preceding  
see photographs of  
No 783 & 784. TL. 255 mm

Charge. Oct. 1913.

No. 785 & 786 & 787 three small catfish

~~Wagon~~ <sup>hill</sup> grayish pink.

No. 788. 789 two small catfish

No. 790. small catfish, head dark bluish gray, body same color but freckled so much with pale pinkish brown, ventral surface pinkish white.

No. 791. fish, elongate, shorter snout than three collar at pectorals

No. 792. small catfish from forest brooks

No. 793. " " " " "

No. 794. " " " " "

No. 795. " " " " "

No. 796. catfish

No. 797. catfish, freckled with gray, dark

- head pinkish brown on upper side

No. 798. catfish, freckled with dark gray & light gray, otherwise on upper side silvery gray (sides) & brownish tints of upper side of head

No. 799. 800. 801. 802 803 804 805 806

807. 808 809 810. 811. Thirteen eel like fish, of soft pinkish color.

Inches 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Centimetres

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- Niapa Nov. 16/1913  
 No 812 a small perch.  
 No 813. eel like fish  
 No 814. eel like fish with spiracles on back  
 No 815. catfish, brown & freckled with dark  
 sides greenish & grayish  
 No 816. <sup>like</sup> No. 814.  
 No 817. Moringus, as process on lower jaw  
 No. 818. 819. 820. 821. 822. 823. 824. Seven eel like  
 slender pinkish brown fish.  
 825, 826. 827 828 four moringus  
 with as process on lower  
 lip.  
 No 829 moringus  
 No 830. catfish with series of  
 transverse spots  
 No. 830 & 831. two small pinkish brown  
 catfish.  
 No 832. small bottle various fish.  
 No 833. small bottle various fish  
 No 834 small bottle various fish  
 from the "Nedunagu" an affluent  
 of the (NEDUNAGU) Bina River.



Hedge May 1914 various small fish

No. 834

~~No. 835.~~ July 2/1914.

No. 836 two large Mormyrids from

Aug. 26. <sup>Mr. Ikeri River.</sup> end 1915

No. 837.

Spring catfish of which  
Mr. Seepin has made a

watercolor

No. 838.

spring catfish - sacker -

of which a watercolor was  
made.

No. 839

long snouted mormyrids

of which a watercolor was  
made.

840.

spring catfish - a watercolor

841.

Barbus - see watercolor

842

perch like fish - " "

843

perch like fish. " "

844.

small fish " "

845

small compressed fish " "

846.

Mormyrids short snout  
in lower jaw. "

847.

catfish, small. "

848

mormyrids long snout " "

849

small fish, with sharp tail " "

Inches 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Centimetres

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Anakuli

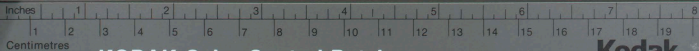
Shari River

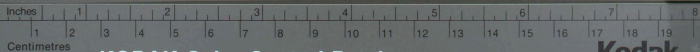
850. *Mormyrus*, not about 20 watercolor  
851. <sup>small</sup> *lebeo* - blackish " "  
852. <sup>19.</sup> *lebeo* " "  
853. <sup>12.</sup> small fish. " "  
854. small *mormyrus*.  
855. <sup>23.</sup> catfish, large & skin only  
Tot. Length 95 cm. height  
of body at base of ventral fin  
(the highest part) 13 cm.  
color dusky green above  
light yellow on breast & belly  
856. 857. 858. 859. 860. 861. 862. 863.  
864. 865. ten long rounded *Mormyrus*  
866. 867. two *Mormyrus* roundish  
snout.  
868. 869. two *Mormyrus* roundish.  
snout.  
870. 871. 872. three *mormyrus*  
roundish snout.  
873. *mormyrus* round snout.  
874. *Mormyrus* short snout.  
875. 876. 877. three small  
*mormyrus* short downward snout

Wahabi febr. 14/1914

85

878. Labeo - small fish.  
879. reticulated spring catfish.  
880. small banded fish.  
881. <sup>17/1914</sup> perch.  
882. Distichodus  
883. small reticulated fish.  
884. Polypterus  
885. Mustacembelus  
886. six small fish.  
887. <sup>Feb 24</sup> five small compressed fish.  
888. <sup>March 15</sup> small fish slightly compressed.  
889. <sup>March 25</sup> Thornyrid short snout.  
890. <sup>March 25</sup> Thornyrid long snout  
891. <sup>March 27</sup> Thornyrid short downward snout  
892. spring catfish.  
893. <sup>page 1914</sup> Thornyrid  
894. 895. <sup>1914</sup> Labeo, from the falls  
at Bange, common.



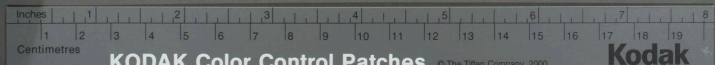
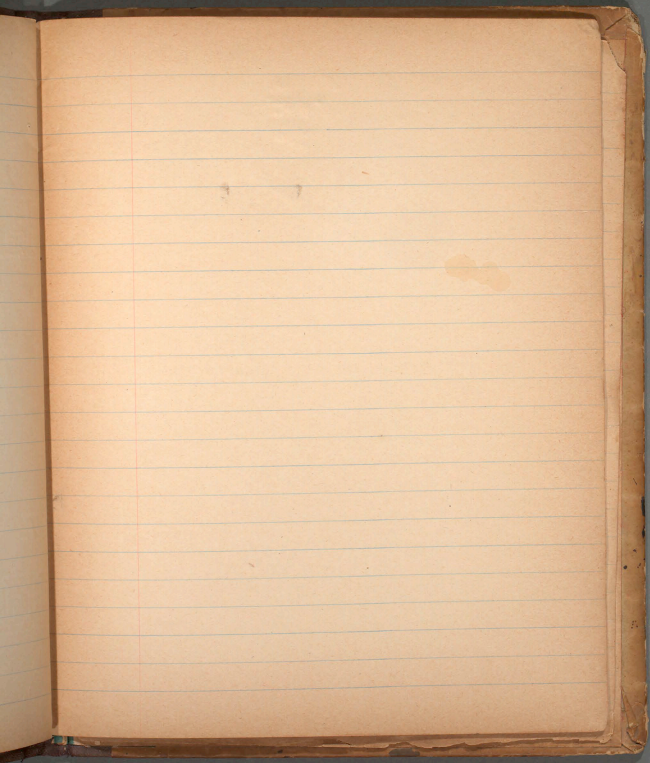


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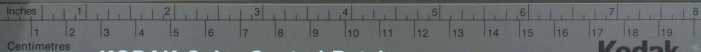
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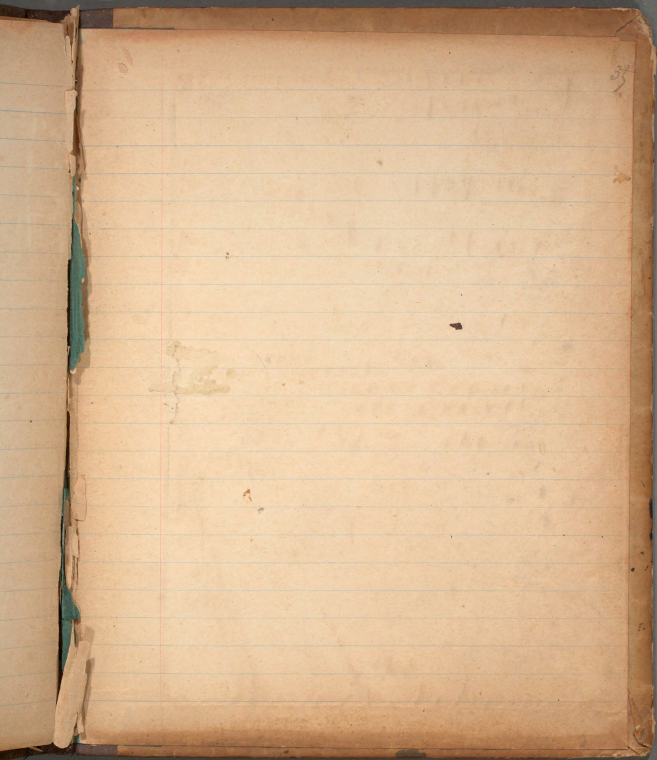
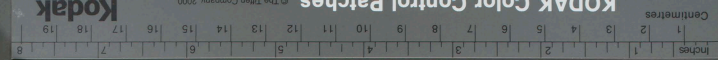
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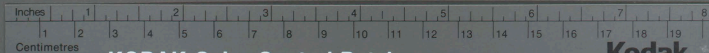
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