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ON A COLLECTION OF FISHES FROM STANLEY POOL (BELGIAN CONGO)

by

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From Mr. A. Werner, collector and animal dealer at Munich, Germany, the Leiden Museum received a collection of 1012 well preserved specimens of fishes from Stanley Pool (Léopoldville), Belgian Congo. As several species proved to be new for this locality and are not mentioned in Poll's paper on the fishes from Stanley Pool (1939), the following publication was considered worth while. Moreover, a new Synodontid species, *Synodontis werneri*, is described.

In the present report, the various species are recorded in the same order as in Poll's account. The name of the locality, being always the same, is omitted further on.

Protopterus dolloi Boulenger

2 ex., January 1956, 76-91 mm.

Both specimens are juvenile and have the tail slightly mutilated. Scales in 90-98 transverse rows between occiput and vent, 42-44 around the body. The rather stout limbs are short, the anterior pair about 4.5 in head, the posterior pair 5/5 and 4/2 in head, the small specimen having the longest posterior limbs. The three external gills are small, 1-1.5 eye-diameter. The distance from origin of dorsal fin to occiput is about 1.5 times the distance to vent. The colouration is wholly dark.

Protopterus spec.

57 ex., August 1955, 33-47 mm.

These juvenile specimens appear to belong to a second species, but a

definite identification seems inadvisable on account of lack of sufficient comparative material.

The following data can be given: head 4-4.5 in head and trunk; dorsal origin close behind occiput; scales indistinct, but in some specimens about 46-53 transverse ridges could be counted along the sides; anterior limbs 1.2-1.5 head, posterior limbs 1.65-1.8 head; external gills about equal to post-orbital head, sometimes much shorter, occasionally longer; colouration above dark, densely spotted, ventrally light yellowish with more or less sparse dark spots, occasionally dark or marbled; limbs transversely striate or annulate, or spotted; fins with distinct white margins.

Most characters seem to indicate an identification as *Protopterus annectens* Owen, but according to Poll (1938, p. 161; 1954, p. 283, map) that species has not been found anywhere near the Lower Congo basin and only *dolloi* and *aethiopicus* possibly occur at Stanley Pool.

Polypterus endlicheri congicus Boulenger

2 ex., June 1955, 240-460 mm (total length).

Both well preserved specimens doubtless belong to the presert species, already known to occur at Stanley Pool (Poll, 1939, p. 11).

Polypterus ansorgei delhezi Boulenger

1 ex., June 1955, 212 mm (total length).

A well preserved specimen, still showing the characteristic dark markings. D XI; scales 55 in longitudinal series, 15 in predorsal series, 38 around body; pectoral fins not reaching dorsal origin.

Gnathonemus petersii (Günther)

1 ex., 1955, 128(142) mm.

Xenomystus nigri (Günther)

20 ex., 1956, 53-94(55-100) mm.

Pantodon buchholzi Peters

4 ex., June 1955, 52.5-64(?-84) mm.

Phractolaemus ansorgii Boulenger

2 ex., August 1955, 36-56(43.5-66) mm.

1 ex., January 1956, 43.5(51) mm.

In contradistinction to Boulenger's description (1909, p. 168), though in accordance with his figure (fig. 133), the first two rays of the dorsal fin are simple; furthermore a simple ultimate (6th) ray. Anal fin rays similar, with one or two posterior rays simple.

The present species was not mentioned in Poll's paper (1939), obviously this is the first report from Stanley Pool.

Phenacogrammus interruptus (Boulenger)

69 ex., August 1955, 27-58(32-69¹) mm. 146 ex., January 1956, 22-54(28-64¹) :mm.

The present series slightly surpasses the maximal length as given in previous literature (Poll, 1939, p. 25). The teeth on the upper jaw are tricuspid in the outer row, quinquecuspid in the inner row; on the lower jaw quinquecuspid with an inner row of two conical (or indistinctly serrate) teeth. Anal fin with 20-23, in one example 24 rays; scales 21-22, seldom 23 in longitudinal series; depth 2.6-3.0 in length. The pectoral fins generally reach base of ventrals, which is situated slightly before origin of dorsal fin. The ventral fins are completely lacking in one specimen.

Phago boulengeri Schilthuis

4 ex., June 1955, 49-93.5(56-105) mm.

These are well preserved specimens, still showing the characteristic colouration. Scales about 44 in lateral line, 8 around caudal peduncle. Snout slightly shorter than postocular head.

Belonophago tinanti Poll

4 ex., June 1955, 59-76(63-82) mm.

The snout slightly more than 1.75 postorbital head in one specimen. The types came from Léopoldville, Stanley Pool (Poll, 1939, pp. 25, 26, fig. 10).

Neoborus ornatus Boulenger

2 ex., June 1955, 95-96(?-109) mm.

Colour markings still distinct.

Distichodus affinis Günther

4 ex., 1955, 36.5-61(44-72) mm.

D 16-18; A 19-21; scales in lateral line 37-38, transverse 7(8)-1-10, 8 between lateral line and ventral fins.

¹⁾ Caudal fin damaged.

Barilius christyi Boulenger

6 ex., August 1955, 49-59(61-74) mm.

Dorsal fin with posterior o-2 rays above anal fin. Colour markings still distinct and characteristic.

Epiplatys multifasciatus (Boulenger)

21 ex., November 1955, 23-42(?, caudal fins damaged) mm.

Principal data: D 10 (3 ex. with 9, 1 ex. with 11 rays); A 15 (1 ex. 16); depth 4.5-5.1, head 3.3-3.6 in length; scales 28-30, generally 29, in longitudinal series; dorsal fin originating above or slightly behind middle of anal. There are six or seven slightly oblique transverse bands across body and tail: across pectoral axil, above ventral base, above origin of anal, above middle of anal, behind anal, and at the end of the caudal peduncle. A variably distinct dark bar covers the opercle and continues ventrally rostrad along the opercular margins, on the throat almost meeting the opposite band. Two dark transverse bands across lower jaw (fig. 62 in Boulenger, 1915, p. 75) distinct in about half the specimens, indistinct or lacking in the further examples.

There remains a small possibility that the present material should be identified as *E. sexfasciatus* Gill, as *multifasciatus* "devra probablement être considérée comme sous-espèce de *E. sexfasciatus*." (Poll, 1951, p. 162).

This is the first report from Stanley Pool.

Aphyosemion elegans (Boulenger)

1 ex., November 1955, 28(36) mm.

The single specimen was found among the material belonging to the previous species. The principal discriminating characters are: D 8; A 15; depth 5.3; scales 30 or 31; caudal fin forked, elongated.

The species was not mentioned in Poll's paper on the fishes from this area (1939).

Aplocheilichthys myersi Poll

181 ex., June 1955, 7-15(?-19) mm.

The present specimens completely agree with Poll's original description (1952, p. 300) and figure (1952a, p. 297, fig. 3), only the number of dorsal rays slightly varies (though seldom) from the usual seven, viz., 6 or 8 in one specimen each.

The type came from Léopoldville, Stanley Pool.

Channallabes apus Günther

10 ex., 1956, 85.5-155(89-163) mm.

Eutropius debauwi Boulenger

32 ex., June 1955, 27-46(33-54) mm.

The anterior (inner) mandibular barbels are sometimes hidden in the skin, and might easily be overlooked; they show a considerable variation in size, measuring 0.35-1 diameter of eye. D generally I.5; A 38-45; P I.7-8 (in one example 6 on one side); branchiostegal rays generally 8, sometimes 9.

According to Trewavas (1943, p. 170), "Eutropiellus is virtually a Eutropius with low numbers of fin rays and branchiostegals and with no anterior mandibular barbels", while E. debauwi is regarded as the type species for Eutropiellus (p. 169). However, the present material gives the impression that the variably developed and often obscure anterior mandibular barbels have been overlooked. Moreover, Boulenger (1900, p. 138) mentions a posterior mandibular barbel, which seems to imply the existence of an anterior mandibular barbel, a deduction confirmed by his figure (pl. L fig. 2) of the present species.

Exactly the same number of soft dorsal rays occurs in *Eutropius*, viz., *E. niloticus* Rüppell and *E. liberiensis* Hubrecht, while the number of anal rays overlaps (39-41 in *Eutropius brevianalis* Pellegrin, the species with the lowest number of anal rays in the genus, cf. Trewavas, 1943, p. 170). According to the same author the number of soft pectoral rays, "9 to 12 soft rays exceptionally 8" (l.c., p. 167), occasionally overlaps, while the number of branchiostegal rays, in *Eutropius* "9 or 10 on each side, rarely 8" (l.c., p. 167), also fails to provide a discriminating character.

On account of the apparent inadequacy of the provided discriminating characters it seems inadvisable to maintain a separate genus *Eutropiellus*. I therefore refer the species *debauwi* to *Eutropius* Müller & Troschel, 1849, and, in accordance with David & Poll (1937, p. 230) and Trewavas (1943, p. 169), the present material to the subspecies *Eutropius debauwi debauwi* Boulenger. This is the first report from Stanley Pool.

Schilbe mystus (Linné)

4 ex., June 1955, 80-84(88 1-84 1) mm.

A 61-65; three dark longitudinal bands on each side (var. fasciata Steindachner).

¹⁾ Caudal fin damaged.

Chrysichthys ornatus Boulenger

3 ex., June 1955, 54-57(61-70) mm.

Base of adipose 1.5-2.0 in distance to dorsal fin; head 1.2-1.25 times as long as broad; maxillary barbels about as long as head; gill rakers 9-10 on lower part of anterior arch; A 4.7-8. The remains of the original colouration are still distinct and characteristic.

Auchenoglanis occidentalis Cuvier & Valenciennes

6 ex., 1955, 44-150 (50 1-187) mm.

Two large specimens have the maxillary barbels reaching to slightly beyond the orbit and the snout distinctly longer than half the head. The small specimens have the maxillary barbels considerably shorter and the snout measuring to even slightly less than half the head. Most specimens are still covered with distinct dark spots.

The largest specimen had in its mouth a small specimen of Synodontis nigriventris David.

Synodontis soloni Boulenger

12 ex., October 1955, 79-99(107-153) mm.

Depth of body 5 in standard length, head 3.75-4.0. Snout 1.4 times the length of the postorbital head. Eye 5.0-5.5 in head, almost 2 in interorbital space. Maxillary barbels smooth with a broad black marginal membrane, hardly longer than head. The mandibular barbels have short ramified branches, the length of the outer pair is about twice that of the inner barbels. Mandibular teeth: 18 (2 ex.), 21 (3), 22 (1), 23 (3), 24 (1), 25 (2). Humeral processes acutely pointed, elongate, striate and granulate, reaching almost or quite as far back as occipito-nuchal processes. Posterior processes of occipito-nuchal slightly rounded. Dorsal spine smooth in front. Pectoral spine equal to or slightly longer than dorsal spine. Adipose dorsal fin distinctly longer than head, 2-3 times the distance to rayed dorsal, 4-5 times its own height. Caudal lobes generally very elongate with slender tips, in some specimens even distinctly longer than half standard length. Colour markings still distinct, marbled to spotted with sharply defined spots; belly whitish, fins spotted.

Excepting the generally much more elongate caudal lobes, these and further characters closely agree with the description and figure given by Boulenger (1911, p. 445, fig. 334). This is the first report from Stanley Pool.

¹⁾ Caudal fin damaged.

Synodontis alberti Schilthuis

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5 ex., 1955, 58-74(80-84 <sup>1</sup>) mm.
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The largest specimen has the branches of the outer mandibular barbels little developed, the maxillary barbels slightly less than twice length of head. The small specimens have the maxillary barbels just twice length of head. All but the largest example are wholly covered with round dark spots.

Synodontis notatus Vaillant

6 ex., 1955, 64-74(?-98) mm.

Maxillary barbels longer than head; adipose dorsal fin distinctly shorter than head without postorbital part; mandibular teeth at least 16; 1-2 lateral spots.

In accordance with previous remarks by Nichols & Griscom (1917, p. 719), the humeral process is less rounded than generally presumed (viz., Boulenger, 1911, p. 463 fig. 347), sometimes bluntly pointed or obliquely truncate.

Synodontis nummifer Boulenger

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2 ex., 1955, 51-62(63-81) mm.
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Maxillary barbels shorter than head; adipose fin at least as long as head without postorbital part; mandibular teeth at most 12; humeral process broadly rounded; two lateral spots.

Synodontis (? decorus Boulenger)

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1 ex., 1955, 27(?) mm.
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The present juvenile specimen is in a very bad condition, for the whole caudal fin, both maxillary barbels, and all fin membranes are lacking, which prevents a definite identification. There still remain some vague indications of large dark blotches on the body; mandibular teeth 9; adipose dorsal fin about as long as distance from rayed dorsal; humeral process broad, obtusely pointed.

Synodontis nigriventris David

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139 ex., 1955, 16-67(20-84) :nm.

1 ex., 1955, 27(34) mm.

123 ex., January 1956, 19-52(25-67) :nm.
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The single small specimen, which was taken from the mouth of an Auchenoglanis occidentalis, shows some aberrant characters: both pairs of mandibular barbels branched; maxillary barbels reaching to end of head, con-

¹⁾ Caudal fin damaged.

sequently distinctly shorter than head; humeral spine narrow, sharp, with a distinct ridge; adipose 1.5 distance to dorsal; mandibular teeth 22; colour light with dark blotches of irregular shape. Excepting the short maxillary barbels, the agreement with the further material is convincing.

The development of the branching of the mandibular barbels is qualitatively and quantitatively variable, the extremes differing widely.

Synodontis werneri nov. spec. (Plate V)

4 ex., August 1955, 36-52 (44-64) mm, holotype and paratypes.

D I.7; A 3.9; P I.8(9); V 1.6; C (15)17.

Depth of body 4.3(4.3-4.6), width immediately before pectorals 3.5 (3.5-3.6), length of head 3.25(3.1-3.25) in standard length. Dorsal outline before dorsal gently rounded, dorsal surface of head rugose; snout in dorsal view bluntly rounded, 2.0 (2.0-2.1) in head and about twice postorbital length. Eye supero-lateral, 3.6(3.3-3.6) in head, 1.35(1.3-1.45) in interorbital width; interorbital width 2.65(2.3-2.7) in head.

Lips moderately developed; maxillary teeth rather strong, not dense, in a moderately broad band, but lacking laterally; behind these an about equally wide band of more slender teeth, each directed obliquely backwards, implanted much more densely. Movable mandibular teeth in a small transverse patch, 26-28 in number, rather long and slender.

Maxillary barbels not margined, proximally oval in cross-section, not branched, 1.6 (1.4-1.6) in head. Outer mandibular barbels with a single ventral series of short branches or tubercles, the proximal branches longest, lacking near apex. Inner mandibular barbels with two ventral series of short and generally bifid branches, almost reaching to tips of barbels. Length of outer and inner mandibular barbels 2.5(2.4-2.85) and 4.0(4.0-4.6) in head.

Gill opening not extending downwards beyond root of pectoral spine. Occipito-nuchal shield rugose, convex, hardly (if at all) longer than broad, with the posterior processes slightly rounded near apices. Humeral process roughly striate, bluntly keeled, its length about 2.5 times depth, acutely pointed. Skin villose.

Dorsal spine striated, smooth in front excepting a single barb near apex (in 3 examples), serrated behind; its length 1.7(1.55-1.9) in head. Adipose dorsal 5(4.5-5.3) times as long as high, 2.3(2.1-2.5) times as long as its distance from rayed dorsal. Pectoral spine 1.2 (1.15-1.35) in head, strongly serrated along both sides, the inner retrorse barbs strongest along distal half. Anal obtusely pointed. Ventrals reaching to within eye-diameter from anal. Caudal deeply forked, the median rays slightly longer than half its total length.

Rather dark brownish, whitish on lower surface of head and on breast, occasionally lighter brownish on belly; whitish round spots on body and caudal peduncle, in one example partly replaced by irregular whitish bands and areas. Dorsal with 2(1-2) dark bands; adipose dark and occasionally with an ocellus; anal with 2(1-2), pectorals with 3, ventrals with 2(1-2), and caudal with 3(2-3) transverse bands.

The combination of characters given in the present description, and especially the characteristic colour markings, does not agree with any of the numerous species hitherto described from this and surrounding areas. Judging by the characters used in Boulenger's key (1911, pp. 391-397), this species is rather closely related to *Synodontis longirostris* Boulenger, but the material necessary for a more definite idea on this subject is not available in our collections.

Microsynodontis batesii Boulenger

15 ex., 1955, 26-32(34-40) mm.

Poll (1939, p. 42) reports from Stanley Pool only the closely related species *Microsynodontis christyi* Boulenger, a report based on a single example and without any further data. However, the present specimens closely agree with Boulenger's description of *batesii* (1911, p. 476), while his description of *christyi* (1920, p. 32) differs in some crucial characters emphasized by Boulenger himself as discriminating (viz., numbers of dorsal and anal rays, length of dorsal spine).

The following data seem convincing: D I.6; A 3-4.8-9; head 4.3-4.7 in standard length; eye 5.5-6.3 in head; adipose 2.3-3.0 times as long as its distance from rayed dorsal; dorsal spine 1.5-1.6 in head; branching of mandibular barbels very variable.

The colouration is very variable: the back brownish of varying intensity, uniform, spotted, or slightly marbled, in some examples with about 6 (generally indistinct) narrow pale vertical bands. The lower parts are pale yellowish, uniform on belly and throat. Dorsal, caudal, and in some specimens anal, with dark spots; a pale yellowish bar across caudal base.

Malapterurus electricus Gmel.

1 ex., 1955, 40(51) mm.

Though juvenile, the present specimen does not show a light ring around the caudal peduncle, as described by Boulenger (1911, p. 513).

Steatocranus casuarius Poll

2 ex., Regina Falls, July 1955, 51-60(64-76) mm.

Teeth in outer series uniform, all strongly bicuspid; inner series much

smaller, tricuspid, in single row, but upper jaw with one (or a few) tooth (teeth) anteriorly behind the row.

Further data: D XXI.7 and XX.8; A both III.7; scales in lateral line 22 + 8(1) and 22 + 7(1), in longitudinal series both 29. Crest distinct. Depth about 3.2 in standard length.

Anabas oxyrhynchus Boulenger

26 ex., 1955, 21-78(25-93) mm.

The numbers of dorsal and anal spines show more variability than recorded in previous descriptions (e.g., Boulenger, 1916, p. 66): D XIV(1 ex.)-XVI.9-10; A VIII-X(1 ex.).9-11. Depth about 2.5 in standard length. Upper profile straight or slightly concave, snout pointed. Serration on posterior part of preorbital indistinct in juveniles, even lacking in examples of 36(43) mm or smaller (17 ex.).

The juvenile specimens have irregular colour markings, a dark band along snout through eye to upper part of gill opening, a second from eye obliquely downward to preopercular angle; the body anteriorly light yellowish with irregular dark stripes and spots, the central part generally paler and with a distinct lateral blotch, the posterior part dark with pale spots; soft dorsal, soft anal, and caudal with a dark basal part, distally (especially caudal) white. With growth, the pigmented area on the fins seems to spread, while a narrow dark margin occurs in some juvenile as well as in a few adult examples. The ventrals are always dark. The specimens were at first preserved in formalin, afterwards in alcohol, which may account for some changes in colouration.

Anabas acutirostris Pellegrin

23 ex., 1955, 26-89(32-107) mm.

D (XVI)XVII(XVIII).9-11; snout pointed, upper profile concave; no caudal peduncle; black ocelli.

Anabas davidae Poll

19 ex., December 1955, 18-39(23-48) mm.

The variation in numbers of dorsal and anal spines and rays is considerable: D XVIII.6 (3 ex.), XVIII.7 (8 ex.), XVIII.8 (4 ex.), XIX.6 (1 ex.), XIX.7 (3 ex.); A X.8 (1 ex.), X.9 (3 ex.), XI.8 (9 ex.), XI.9 (3 ex.), XII.7 (1 ex.), XII.8 (1 ex.), XII.9 (1 ex.). Scales in longitudinal series, those on caudal excluded, 26-28; scales in lateral line (with pores or tubes) 4-11/3-9, generally 6-9/5-7. Depth of body 3.5-3.8, head 3.0-3.4 in standard

length. Snout about 1.5 in eye-diameter. Flattened opercular spines: 2-4 above and I below notch. Vomerine teeth distinct, but palatine teeth could not be perceived though recorded for the present species by Poll (1939, p. 50). Ventrals in most specimens reaching to slightly beyond anal origin, but with a filamentous first soft ray to 6th or 7th anal spine in largest examples.

The colour markings are generally dark and well defined: 5-6 brown transverse bands, less wide than interspaces; a distinct dark spot at caudal base in juveniles, growing vague and forming a 6th or 7th transverse band in older specimens; fins dusky, dorsal and anal with continuations of transverse bands, ventrals with a longitudinal band between 1st and 3rd soft rays.

The agreement with Poll's description (1939, p. 50) is very close, and complete in the characters Poll considers crucial: (p. 51) "Pédoncule caudal à peine apparent; dorsale XIX.6-7; anale XI-XII.8. Hauteur du corps 3½ à 4 fois dans la longueur. Epines existant seulement sur l'operculaire autour de l'encoche." Poll possessed only two specimens, which accounts for the more restricted variation in the numbers of dorsal and anal spines and rays.

The differences in comparison with Poll's description are few: the apparent lacking of palatine teeth, the longer ventrals (in a few examples only), the caudal spot (only existing in specimens younger than those available to Poll), and the generally very distinct transverse bands (of which Poll remarks: "Un des exemplaires, le plus clair, montre encore 5-6 vagues lignes transversales.").

Mr. Werner, in a recent letter, expressed some doubt concerning the present identification. He writes, e.g., that this species is known commercially as *Anabas ansorgii*; that "ähnliches Material" has been sent to other institutions, where it was identified as *A. nanum* and *A. ansorgii*; while he further remarks: "Der *A. davidae* kommt in Stanley Pool vor (!, Stanley Pool is type locality), ist aber ziemlich selten". "Der Fisch ist stark gedrungen und ist glatt grau gefärbt, ohne Streifen etc.".

Obviously, the fact that a species is known commercially by a different name provides no argument; there have been numerous cases in which the commercial names proved erroneous. The expression "ähnliches Material" must probably be taken with some reserve, the three species hitherto mentioned being rather hard to distinguish, a fact stressed by Mr. Werner's remark that some of his specimens were identified as A. nanum, others as A. ansorgii. Finally, referring to Mr. Werner's description of A. davidae, the depth of the body in A. nanus, A. ansorgii, and A. davidae, is 2.65-3 (Boulenger, 1916, p. 58), 3.25-3.35 (l.c., p. 59), and 3.5-4.0 (Poll, 1939, p. 50) in standard length; furthermore, Poll (as quoted above) mentions 5-6 vague transversal bands.

Hoedeman (1957, p. 231) suggests a synonymy between A. ansorgei and A. davidae. Although the extremes in several characters agree or even overlap, the present material does not seem to support a presumed synonymy.

Ophiocephalus obscurus Gthr.

7 ex., June 1955, 51-92(?-104 1) mm.

The smallest example mutilated; colour markings generally still distinct, as described by Boulenger (1916, p. 71).

Tetrodon mbu Boulenger

2 ex., June 1955, 78-80(103-108) mm.

Both young specimens with the juvenile colouration, the stripes partly indistinct and partly composed of roundish spots. Eye still large, about 1.5 in snout, 4 in head.

Tetrodon miurus Boulenger

5 ex., June 1955, 54-118(68-145) mm.

The largest specimen considerably surpasses in size those recorded in previous papers. It has the pectorals more truncate than shown in Boulenger's figure (1916, p. 147, fig. 100).

The two smallest specimens, both of about the same size, show a much lighter colouration; head, back, and sides with small and rather vague dark brown spots, the back with an irregularly shaped darker transverse area between pectorals and a darker area before and around dorsal extending onto sides; the lower parts whitish. The larger examples are dark brown above.

Anal origin situated more or less behind dorsal origin. Caudal peduncle about 1.35(proximal)-1.5 (distal) times longer than deep.

Tetrodon schoutedeni Pellegrin

37 ex., January 1956, 37-79(50-98) mm.

D IX-XI, generally X; depth of caudal peduncle I (small ex.) -1.5 (largest ex.) in its length.

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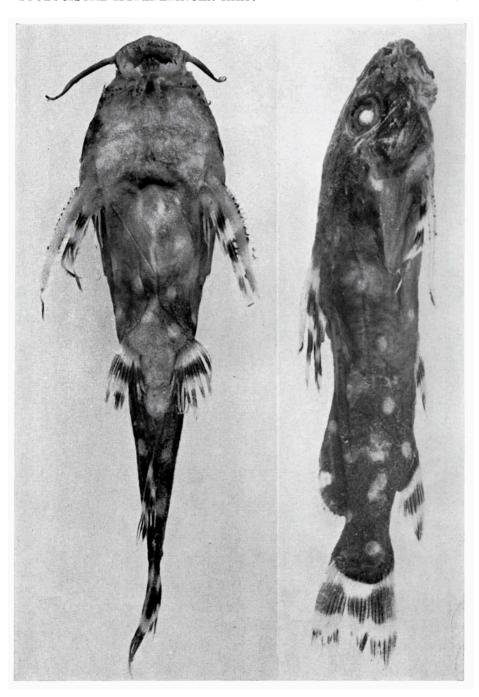
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¹⁾ Caudal fin damaged.

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Synodontis werneri, nov. spec. Holotype in lateral and ventral view. X 23/4.