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A New Genus of African Loach Catfish (Siluriformes: Amphiliidae) from the Congo River Basin, the Sister-Group to All Other Genera of the Doumeinae, with the Description of Two New Species

Carl J. Ferraris, Jr.¹, Richard P. Vari², and Paul H. Skelton³



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Congo River basin catfishes previously identified as *Doumea alula* (Amphiliidae, Doumeinae) were found to include three species that belong not to the genus *Doumea* but are, instead, the sister-group to a clade formed by all remaining Doumeinae. The species are assigned to a new genus, *Congoglanis*. Characters delimiting the Doumeinae and the clade consisting of all members of the subfamily except *Congoglanis* are detailed. *Congoglanis alula* is distributed throughout much of the Congo River basin; *C. inga*, new species, is known only from the lower Congo River in the vicinity of Inga Rapids; and *C. sagitta*, new species, occurs in the Lualaba River basin of Zambia in the southeastern portion of the Congo River system.

CATFISHES of the subfamily Doumeinae of the Amphiliidae inhabit rapidly flowing rivers and streams across a broad expanse of tropical Africa. Recent studies of the Doumeinae documented that the species diversity and morphological variability within the subfamily are greater than previously suspected (Ferraris et al., 2010). As part of a continuing study of the Doumeinae, we examined extensive series of specimens from throughout the Congo River basin that conformed to the previous concept of *Doumea alula* (Fig. 1). Our examination revealed that the specimens actually represented more than one species and that all of those species lacked some of the characters considered diagnostic of the Doumeinae. The objective of this report is to reevaluate the limits and defining features of *Doumea* and the Doumeinae, name a new genus to accommodate *Doumea alula* and its related species, redefine and redescribe *D. alula*, describe and name the two newly discovered species, and provide a summary of the distribution of species of the new genus within the Congo River basin.

MATERIALS AND METHODS

Counts and measurements follow the methods outlined by Skelton (1981, 2007), with fin-ray counts taken from whole specimens. Vertebral counts were taken from radiographs and include the five Weberian-complex centra that precede the first rib-bearing vertebra, and a single complex ural centrum. A summary of measured characters is presented in Table 1. Abbreviations in the text are standard length (SL), head length (HL), and cleared-and-counterstained specimen (CS). An asterisk following a meristic value in the description indicates that of the holotype. Institutional codes are as listed at <http://www.asih.org/node/204>.

Congoglanis, new genus

Type species.—*Congoglanis inga*, new species

Diagnosis.—*Congoglanis* includes species that possess the following combination of characters unique within the Amphiliidae: the caudal peduncle is relatively short and compressed, with its depth greater than its width and its length only approximately 16–24% SL; the caudal vertebrae lack dorsolateral or ventrolateral projections that extend through, or nearly to, the surface of the skin (Fig. 2); the neural spines posterior of the dorsal fin and the haemal spines on all but the posteriormost vertebrae are somewhat elongate and taper distally to acute, posteriorly directed pointed processes rather than having a vertically shortened, longitudinally aligned plate-like form that fans out antero-posteriorly distally; the lower jaw has teeth of approximately the same size and number as those of the upper jaw; the barbels are short, thick and papillose; the gill membranes are continuous across the isthmus with the posterior margin straight or with only a slight indentation medially and definitely not deeply incised; the supraoccipital is prolonged posteromedially as a long spinous process that is expanded laterally immediately ventral to the epidermis; the first and second dorsal-fin pterygiophores are expanded laterally proximate to the surface of skin and form a small triangular nuchal shield; the first ray of both the pectoral and pelvic fin has a distal extension of the lepidotrichia that range in orientation along the margin of the fin from anterolaterally directed anteriorly to progressively more laterally directed along the midlength of the ray to posteriorly directed toward the tip of the fin and which join together to form stiff, inflexible leading margin to those fins; and the medial rays of the falcate pectoral fin are adpressed to, and progressively rising dorsally along, the side of the body.

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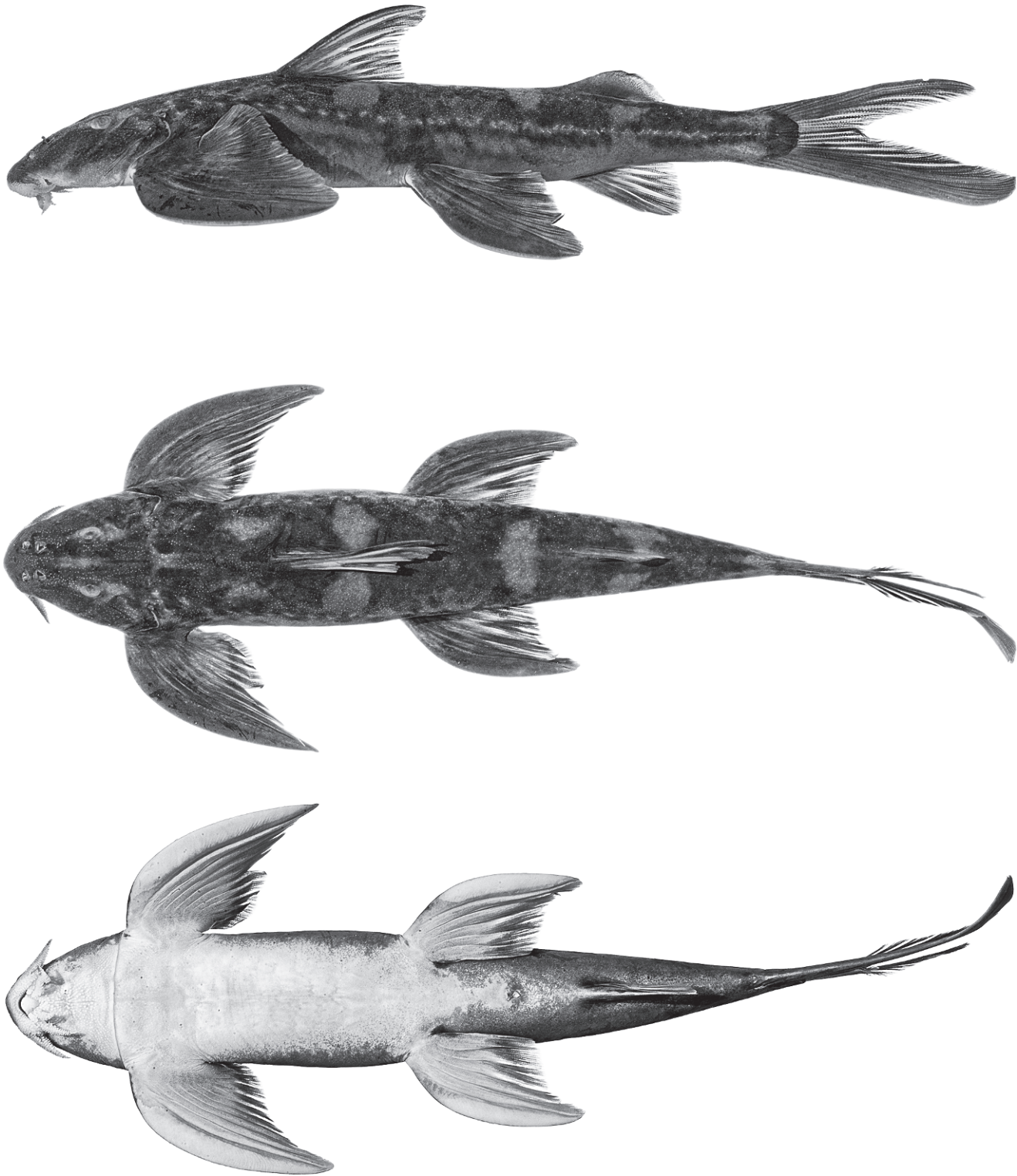


Fig. 1. *Congoglanis alula*, CU 91469, 96 mm SL, Central African Republic, Ouaka Prefecture, Congo River basin, Oubangui River drainage, Mbourou River rapids within AXMIN Ndassima mining concession, 6° 13' 00" N, 20° 45' 39" E.

Remarks.—The subfamily Doumeinae was first diagnosed by Regan (1911:565) as a group within the Amphiliidae characterized by having the gill membranes attached to the isthmus, the anterior ribs sessile, and by bearing paired dorsolateral and ventrolateral processes on the caudal vertebrae. At the time of that diagnosis, all currently recognized genera of the Doumeinae (*Andersonia*, *Belonoglanis*, *Doumea*, *Phractura*, and *Trachyglanis*, plus the subsequently synonymized *Paraphractura*) were encompassed by

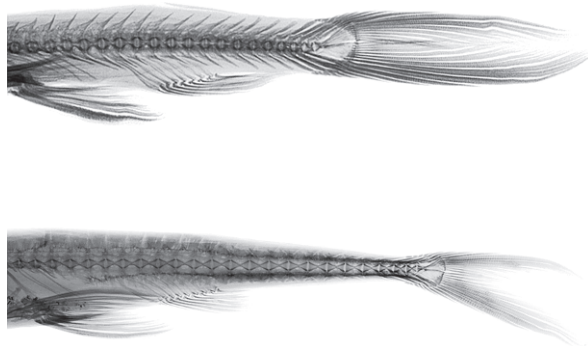
that definition. Intergeneric subgroupings within the Doumeinae were, in turn, recognized based on the presence or absence, and degree of development, of plates formed at the distal margins of the dorsolateral and ventrolateral projections of the vertebrae.

A monophyletic Doumeinae was recovered in two recent phylogenetic studies (He et al., 1999; Diogo, 2003) but with dramatic differences in the placement of the subfamily. Diogo (2003) hypothesized that the Doumeinae formed a

Table 1. Proportional Measurements for the Three Species of *Congoglanis*. Values are reported as percentages. For each species, range and mean values are based on the holotype (HT) and nine additional specimens.

	<i>Congoglanis sagitta</i>			<i>Congoglanis inga</i>			<i>Congoglanis alula</i>		
	HT	Range	Mean	HT	Range	Mean	HT	Range	Mean
Standard length (mm)	83	65–111		91	68–106		107	66–107	
Predorsal length/SL	38	36–38	37.1	38	35–39	37.6	34	34–39	38.0
Head length/SL	22	20–22	21.3	22	21–23	22.0	21	21–23	22.5
Body depth at dorsal-fin origin/SL	13	13–14	13.5	15	14–17	15.2	15	14–16	14.9
Body width at dorsal-fin origin/SL	16	15–17	15.3	18	17–20	18.0	15	15–18	16.3
Caudal-peduncle length/SL	24	21–24	22.4	18	16–21	18.4	22	18–22	19.4
Caudal-peduncle depth/SL	6	6–6	6.0	8	7–8	7.6	7	6–7	6.6
Anal-fin base length/SL	10	8–12	9.9	9	8–11	9.2	8	8–10	9.1
Dorsal-fin length/SL	19	19–23	20.3	22	21–24	22.6	21	20–23	21.7
Pectoral-fin length/SL	25	23–27	24.3	27	27–31	29.0	28	28–29	28.6
Pelvic-fin length/SL	21	19–21	20.0	22	22–25	23.4	24	24–28	24.9
Posterior limit of insertion pelvic-fin base to anus/SL	9	7–9	8.0	9	9–13	10.7	9	9–10	9.6
Head depth/HL	42	41–48	43.9	49	42–49	44.7	41	38–45	41.4
Head width/HL	70	67–73	71.0	76	70–80	75.1	79	69–79	73.0
Snout length/HL	62	61–65	62.3	57	53–61	57.9	63	58–65	61.2
Orbit diameter/HL	13	13–16	14.3	12	10–15	12.1	11	11–15	13.2
Interorbital width/HL	25	23–30	26.3	25	23–32	26.7	28	24–29	26.4
Postorbital length/HL	31	27–32	29.5	32	32–35	33.5	31	27–31	29.4
Postorbital length/snout length	50	44–52	47.5	56	54–62	58.4	49	44–50	48.0
Caudal-peduncle length/caudal-peduncle depth	400	310–400	368	220	210–290	245	330	260–330	291
Body width/body depth	120	110–120	113	120	110–130	119	100	100–120	119

clade within the Amphiliidae, a conclusion in keeping with previous concepts of that family, as well as that in more recent molecular studies (Sullivan et al., 2006; Lundberg et al., 2007). Somewhat earlier, however, He et al. (1999) hypothesized that the Doumeinae were more closely related to the Asiatic family Sisoridae than to the Amphiliidae. Each of those studies included only sparse representation of the species-level diversity across the Doumeinae. That limitation is particularly problematic for the more speciose genera within the subfamily (including what was traditionally considered *Doumea*) that demonstrate variation in phylogenetically informative systems (Ferraris et al., 2010). Such variation would not be retrieved in an analysis based on one or limited species from a genus. Determining which of the alternative hypotheses (Diogo versus He et al.) is preferable or,

**Fig. 2.** Radiographs of caudal portion of bodies of *Congoglanis inga*, USNM 216351 (above), and *Doumea typica*, CU 82958 (below), to show differences in form of caudal vertebrae between *Congoglanis* and other doumeines.

for that matter, whether some other scheme of relationships is better supported, lies outside the scope of this study and, more importantly, that question is the subject of an ongoing analysis by another researcher. Nonetheless, as we discuss in the following sections, the available evidence supports the placement of the new genus, *Congoglanis*, with the Doumeinae, and provides support for the recognition of the new genus as the apparent sister group to the rest of the subfamily.

Authors commencing with Regan (1911) proposed a series of characters as delimiting the Doumeinae (including, somewhat later, *Doumea alula* Nichols and Griscom, 1917, a species herein assigned to *Congoglanis*). Some of these features are generalized for catfishes, whereas a number of the others, although derived, were discovered during this study to be absent in *Congoglanis* and are instead limited to the other genera of the Doumeinae (*Andersonia*, *Belonoglanis*, *Doumea*, *Phractura*, and *Trachyglanis*; see comments below).

As we noted above, He et al. (1999:141) were the first to propose that the Doumeinae were monophyletic. Presentation of data in that paper and errors at various points renders it difficult to definitively identify all proposed synapomorphies, but these appear largely to involve internal anatomical features. Diogo (2003:431) more recently proposed 11 derived features for the Doumeinae. Nearly all involve features that can best be evaluated in a more encompassing phylogenetic study, although one, the presence of a broad, elongate, supraoccipital process, is externally obvious and supportive of the hypothesis of the monophyly of the subfamily within the context of the Amphiliidae. In addition, the following apparently derived external features delimit the Doumeinae: relatively short, thick, papillose barbels; very small premaxilla; and gill membranes that are continuous across the isthmus with the posterior margin straight or with only a

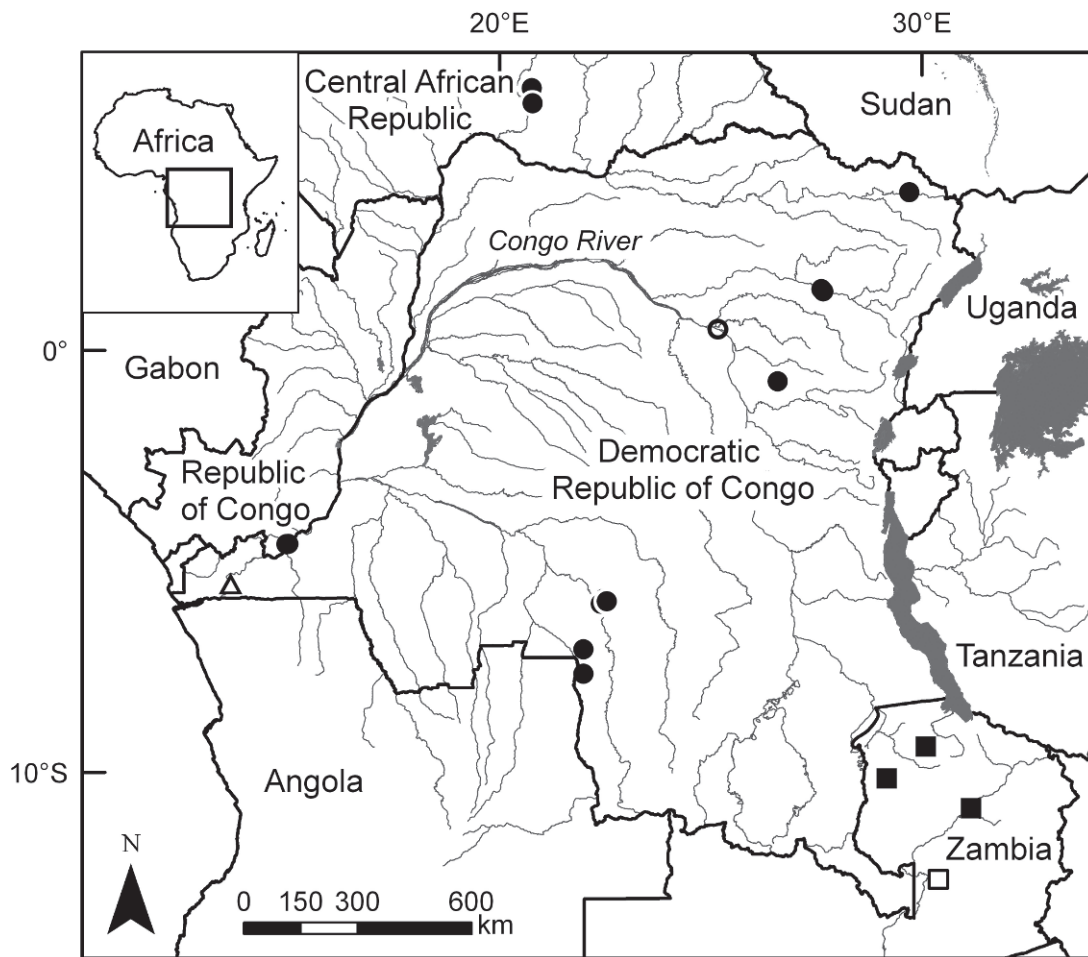


Fig. 3. Map of central Africa, showing Congo River system, with localities of species of *Congoglanis* indicated: *C. inga* (triangle), *C. alula* (circles), and *C. sagitta* (squares). Open symbols indicate type localities.

slight indentation medially and definitely not deeply incised. These three synapomorphies plus that involving the supra-occipital process proposed by Diogo (2003) are congruent with the hypothesis that *Andersonia*, *Belonoglanis*, *Congoglanis*, *Doumea*, *Phractura*, and *Trachyglanis* form a monophyletic assemblage equivalent to the Doumeinae of previous authors.

A subunit of the Doumeinae, consisting of *Andersonia*, *Belonoglanis*, *Doumea*, *Phractura*, and *Trachyglanis*, is now diagnosed by several characters that had erroneously been considered to define the entire subfamily (those five genera plus *Congoglanis* described herein). Most noteworthy of the external obvious derived attributes are the elongate and depressed caudal peduncle with its length at least 25% SL and a reduced number of teeth on the lower jaw. Internal diagnostic features readily discernable in radiographs include the caudal vertebrae with dorsolateral or ventrolateral projections that extend through, or nearly to, the surface of the skin (Fig. 2) and the neural spines posterior of the dorsal fin and the haemal spines on all but the posteriormost vertebrae have a vertically shortened, longitudinally aligned plate-like form that fans out anteroposteriorly distally. Thus, the absence of this suite of derived features in *Congoglanis* suggests that it is the sister group to a clade formed by the remaining doumeine genera.

Our qualified comment as to the possible sister group relationship of *Congoglanis* relative to other doumeines is not a function of the lack of evidence supporting the hypothesis of position of the three included species of that genus within

the subfamily. Rather, the uncertainty derives from the fact that the features which readily distinguish *Congoglanis* from the remaining members of the Doumeinae (a caudal peduncle that is relatively short and compressed with its depth greater than its width; the absence of dorsolateral or ventrolateral projections on the caudal vertebrae that extend to, or nearly to, the skin surface; the possession of elongate neural spines posterior of the dorsal fin along with all haemal spines that taper distally to an acute, posteriorly directed point; and the possession of lower jaw with teeth of approximately the same size and number as those of upper jaw) are all apparent symplesiomorphies within the Amphiliidae. At this time, we have yet to identify any synapomorphies for *Congoglanis*, which raises the possibility that the genus as defined herein might not be monophyletic. That issue notwithstanding, the available evidence strongly supports the hypothesis that the three species of *Congoglanis* are not part of the clade formed by *Andersonia*, *Belonoglanis*, *Doumea*, *Phractura*, and *Trachyglanis*. As such, those three species cannot be assigned to *Doumea*, following traditional practice. Two options exist to resolve this problem. The first is the placement of the three basal species of the Doumeinae into a single genus, which we have done herein, notwithstanding the absence of evidence of monophyly of that genus. The second is to place each of those three species into a separate genus pending the possible discovery of evidence that they form a monophyletic lineage. The former is clearly the preferable course of action in terms of stability of the present

nomenclature for the Doumeinae. It furthermore serves to emphasize the phylogenetic separation of *Congoglanis alula*, *C. inga*, and *C. sagitta* from the clade formed by *Andersonia*, *Doumea* (in the restricted sense used herein), *Belonoglanis*, *Phractura*, and *Trachyglanis*.

***Congoglanis alula* (Nichols and Griscom, 1917)**

Figures 1, 3; Table 1

Doumea alula Nichols and Griscom, 1917: 722, fig. 27 [type locality: Stanleyville, Congo; holotype AMNH 6531].—Boulenger, 1920:7 [collection from Stanley Falls and Poko].—Pellegrin, 1927:428 [listing].—Pellegrin, 1928:109 [collection from Lulabourg, Kasai region].—Pellegrin and Roux, 1928:298 [listing].—Pellegrin, 1933:116 [in key to species of *Doumea*].—David and Poll, 1937:227 [collections from Aruwimi and Uele rivers].—Harry, 1953:194 [literature summary].—Poll, 1967:265, fig. 126 [Congo River basin, Angola].—Chardon, 1968:120–124 [Weberian complex anatomy].—Skelton and Teugels, 1986:61 [in part, summary; Congo River basin; maximum size].—Burgess, 1989:114 [in listing of members of *Doumea*].—Diogo, 2000:118 [within *Doumea*].—Diogo, 2003:431 [within *Doumea*].—Ferraris, 2007:24 [in part; listing of species; type depository; distribution].—Seegers, 2008:149 [brief redescription].—Wamuini Lunkayilakio, 2010:152, figs. 3.4b–c [Inkisi River basin, lower Congo River].—Wamuini Lunkayilakio et al., 2010:85 [Inkisi River basin, lower Congo River].

Diagnosis.—*Congoglanis alula* differs from *C. inga* in having a shorter maxillary barbel (not reaching to vertical through anterior margin of orbit, vs. extending well past anterior margin of orbit, respectively), a longer pelvic fin (24–28% SL, vs. 19–21%, respectively), a shorter postorbital length (27–31% HL, vs. 32–35%, respectively), a relatively narrow interorbital width (1.5 times eye diameter, vs. 2 times, respectively), and shorter anal-fin rays (posterior rays of adpressed anal fin extend to, rarely slightly beyond, vertical through posterior limit of adipose fin, vs. posterior rays extend well past vertical through posterior limit of adipose fin, respectively). *Congoglanis alula* differs from *C. sagitta* in having a longer pectoral fin (28–29% SL, vs. 23–27%, respectively), a longer pelvic fin (24–28% SL, vs. 19–21%, respectively), a shorter caudal peduncle (18–22% SL, mean 19.4, vs. 21–24% SL, mean 22.4, respectively) and deeper caudal peduncle (caudal-peduncle depth 2.6–3.3 times in caudal-peduncle length, vs. 3.1–4.0 times, respectively), a relatively narrow interorbital width (1.5 times eye diameter, vs. 2 times, respectively), a more posteriorly placed anal fin (anal-fin origin approximately at tip of adpressed pelvic fin, vs. origin well in advance of tip of adpressed pelvic fin, respectively), and fewer vertebrae (36–39, mode 37, vs. 39–41, mode 40, respectively).

Description.—Maximum size: 141 mm SL. Body elongate, nearly cylindrical from head to anal-fin origin, with abdominal region slightly flattened, progressively tapering further posteriorly. Greatest body depth and width located at dorsal-fin origin, except in specimens with distended abdomens. Body smooth skinned and firm. Dorsal and ventral profiles of body from head to vertical through anal fin nearly horizontal but converge from vertical through anal-fin origin to posterior end of caudal peduncle. Lateral line complete, running along midlateral surface of body.

Short, more-or-less uniformly spaced dorsal and ventral branches extend off main portion of lateral line. Body without dorsolateral or ventrolateral vertebral processes extending to skin surface from region of adipose-fin base posteriorly to caudal-fin base. Caudal peduncle moderately elongate, thick, and compressed, but nearly as wide as high at terminus of anal-fin base. Least depth of caudal peduncle located approximately at posterior of peduncle.

Head profile acutely triangular from dorsal view with lateral margin slightly convex; snout tip rounded. Head pointed and depressed from lateral view. Snout moderately long, relatively slender and tapering anteriorly. Eye slightly horizontally elongated and situated entirely within posterior or one-half of head; without free orbital margin. Diameter of eye approximately two-thirds of interorbital distance. Distance from posterior naris to anterior margin of eye only slightly greater than distance between anterior naris and tip of snout. Posterior naris closer to anterior naris than to eye. Distance between nares of each side slightly less than one-half distance of each to contralateral naris. Dorsal and lateral surface of head and body with scattered, tiny, white flattened tubercles (possibly free neuromast organs).

Mouth subterminal, small, ovoid when open, with fleshy tuberculate upper lip and smooth firm lower lip, flanked to each side by tuberculate section. Upper jaw with teeth in broad crescentic patch continuous across midline. Lower jaw with teeth in oval patch on each side of symphysis, with narrow median gap. Teeth in both jaws long, slender and slightly curved; numbers of teeth in upper and lower jaws about equal. Barbels tuberculate and distally tapered. Maxillary barbel falling short of vertical through anterior margin of eye. Inner mandibular barbel shortest, with base situated slightly lateral of midline and approximately in line with lateral margin of smooth portion of lower lip. Outer mandibular barbel arises from angle of mouth and extends posteriorly approximately to vertical through tip of maxillary barbel. Branchiostegal membrane continuous across ventral midline, with central portion of posterior margin straight or slightly concave. Gill slit extends posterodorsally to horizontal through eye. Supraoccipital process elongate and slightly wider near posterior tip; process separated by narrow gap from small triangular nuchal shield.

Dorsal fin falcate, first branched ray longest. Tip of adpressed dorsal fin extends past vertical through base of pelvic fin. First dorsal-fin ray segmented, not forming spine. Adipose-fin origin located at vertical through anal-fin origin; fin small with length of base approximately one-half distance between posterior terminus of dorsal-fin base and adipose-fin origin. Adipose fin adnate, ovoid, with posterior limit of fin base posterior of vertical through anal-fin base, but not posterior of vertical through tip of adpressed anal fin. Pectoral fin large and falcate, with first ray curved, pectinate, broad and with fleshy pad covering ventral surface; distal margin of fin slightly concave, with first ray longest. Innermost pectoral-fin rays short, posterodorsally oriented and adpressed to body wall. Tip of adpressed pectoral fin falling short of pelvic-fin origin but reaching to vertical through posterior terminus of dorsal-fin base. Pelvic fin large, only slightly smaller than pectoral fin; distal margin slightly concave, with first ray longest. First pelvic-fin ray curved and pectinate, with ventral surface covered by fleshy pad. Pelvic-fin origin located distinctly posterior of vertical through posterior end of dorsal-fin base. Tip of adpressed pelvic fin extends to middle of anal-fin base. Anal

fin small, with distal margin straight. Tip of adpressed anal fin extends past vertical through posterior limit of adipose fin. Anal-fin base approximately two-thirds length of adipose-fin base. Caudal fin deeply forked, asymmetrical, with ventral lobe variably longer and broader than dorsal lobe. Fin lobes long and acutely pointed. Middle rays of caudal fin slightly less than one-half length of longest rays of dorsal lobe. Dorsal-fin rays i,6,i(1) or i,7*(12); pectoral-fin rays i,11(6), i,11,i(2), or i,12*(5); pelvic-fin rays i,5*(13); anal-fin rays iv,5,i(2), iii,6(1), iii,6,i(1), iv,6(3), iv,6,i(2), iii,7(2), or iv,7*(2); principal caudal-fin rays i,7,8,i *(13). Vertebrae 36(5), 37(21), 38(16), or 39(2). Ribs 11(6), 12(36), or 13(2).

Coloration in alcohol.—Body coloration generally dark, with variably distinct lighter regions on overall dark brown body. In lightly pigmented specimens, body darker dorsally with brown coloration extending ventral of lateral line on abdomen and caudal peduncle; boundary between dark brown pigmentation of dorsal and dorsolateral regions and lighter coloration of ventrolateral and ventral regions relatively straight and horizontal from pectoral-fin base to caudal peduncle. Darker individuals with boundary obscured and appearing to extend further ventrally before gradually becoming somewhat lighter.

Lightly pigmented specimens with six pale patches distributed in irregular horizontal line along dorsolateral part of body. Anteriormost patch ovoid, horizontally elongated, extending just dorsal of lateral line anterior of dorsal-fin origin. Second patch rounded or slightly horizontally elongated, located just past posterior extent of dorsal-fin base. Third patch horizontally elongated and slender; patch extending above lateral line from vertical through pelvic-fin origin to vertical through midlength of adpressed pelvic fin. Ventral margin of fourth patch variably somewhat more dorsally positioned than dorsal margin of third patch. Contralateral fourth patches in contact along dorsal midline and form saddle immediately anterior of adipose-fin base. Fifth patch horizontally elongated and located entirely above lateral line; patch extends from vertical through middle of adipose fin to vertical through posterior extent of that fin. Sixth patch horizontally elongated and of variable length on posterior half of caudal peduncle and terminates posteriorly at anterior limit of dark spot at caudal-fin base. Dark spot at caudal-fin base semicircular; straight anteriorly and broadly convex posteriorly; spot extending nearly to dorsal and ventral margins of caudal peduncle. Ventrolateral portion of abdomen and ventral part of caudal peduncle with scattered dark chromatophores; chromatophores absent on ventral portion of abdomen as far posterior as pelvic fin, even in darkly pigmented specimens. All branches of lateral-line canal unpigmented.

Dorsal and lateral portions of head dark brown other than variably shaped pale spot immediately posterior of eye; spot smaller than eye. Ventral part of head unpigmented with distinct horizontal line between brown and pale portions ventrolaterally. Maxillary barbel with dusky base dorsally, otherwise unpigmented. Mandibular barbels unpigmented.

Dorsal surfaces of pectoral and pelvic fins brown except for pale transverse patch extending across inner rays and pale distal margin. Ventral surface of pectoral and pelvic fins unpigmented except for small patch of dark chromatophores along basal portion of innermost rays. Dark pigmentation on dorsal surface of distal portions of rays appears as dusky region extending along sub-marginal portion of ventral surface of both fins.

Dorsal fin with dense concentrations of dark chromatophores along rays; interradial membranes without chromatophores. Adipose fin darkly pigmented, except for narrow pale distal margin on posterior one-half of fin. Anal fin with dense concentrations of dark chromatophores along rays; interradial membranes without chromatophores. Caudal fin with dense concentrations of dark chromatophores along rays; interradial membranes without chromatophores.

Coloration in life.—Wamuini Lunkayilakio (2010:152) reported the color in life of specimens from the Inkisi River as [translation from French ours]: In life the head is yellowish brown. The dark brownish dorsal regions are marked with 5–6 light spots, which are more or less confluent along the midline. The ventral region is bright orange. The lateral line is punctuated. The lower lobe of the caudal fin is darker. The fins have grayish margins and black bands. The external rays of the tail are gray-black. Preserved specimens are dark brown; the ventral region is pale yellow.

Distribution.—Middle reaches of Congo River system and tributaries, in the Democratic Republic of the Congo and the Central African Republic and, possibly extending as far south as Angola (see Remarks). Reports of this species from the lower Congo River and Zambia refer instead to *Congoglanis inga* and *C. sagitta*, respectively.

Habitat.—John Friel (pers. comm., 12 January 2011) noted that *Congoglanis alula* and *C. sagitta*, new species, were “typically found in the fastest flowing portions of rivers and are always associated with large rocks. They appear to congregate underneath rocks near where water breaks over the rocks during the day, and will move out onto the tops of rocks at night. Most specimens were collected during the day using an electroshocker, . . . alongside other extreme rheophilic fishes, such as *Chiloglanis*, *Euchilichthys*, and *Labeo*.”

Remarks.—Two specimens previously identified as *Doumea alula* in Poll (1967) from the Congo River basin in Angola (MRAC 162329, 162330) are clearly members of *Congoglanis*, but appear to differ from *C. alula* in various details. The specimens, however, are in somewhat poor condition and additional material from that region is necessary before the status of those populations can be determined.

Material examined.—Central African Republic: Ouaka Prefecture: CU 91469, 34, 40–95 mm SL, SAIAB 77596, 37, 34–118 mm SL, Congo River basin, Oubangui drainage, Mbourou River rapids within AXMIN Ndassima mining concession, 6°13'00"N, 20°45'39"E. CU 91470, 9, 33–128 mm SL, SAIAB 77707, 7, 33–84 mm SL, Baidou River, above and below pontoon crossing, 5°51'28"N, 20°46'44"E. Mbomou/Haut Mbomou Prefecture: MCZ 48351, 6, 42–89 mm SL, USNM 297144, 1, 69 mm SL, Mbomou River at Gozobangui. Democratic Republic of the Congo: Orientale: AMNH 6488, 1, 108 mm SL (paratype of *Doumea alula*), Avakubi, Ituri River, 01°24'N, 27°40'E. AMNH 6531, 107 mm SL (holotype of *Doumea alula*), Stanleyville (=Kisangani), junction of Lualaba River with Congo River, 00°30'N, 25°10'E. AMNH 6629, 1, 91 mm SL (paratype of *Doumea alula*), AMNH 6712, 1, Faradje, Dungu River, 03°45'N, 29°42'E. Kasai Occidental: AMNH 12446, 1, 69 mm SL, AMNH 12447, 1, 65 mm SL, Lulua River, Luluabourg (=Kananga), 05°53'49"S, 22°26'56"E. AMNH 243604, 1, 89 mm SL, AMNH 243626, 1, 75 mm SL,

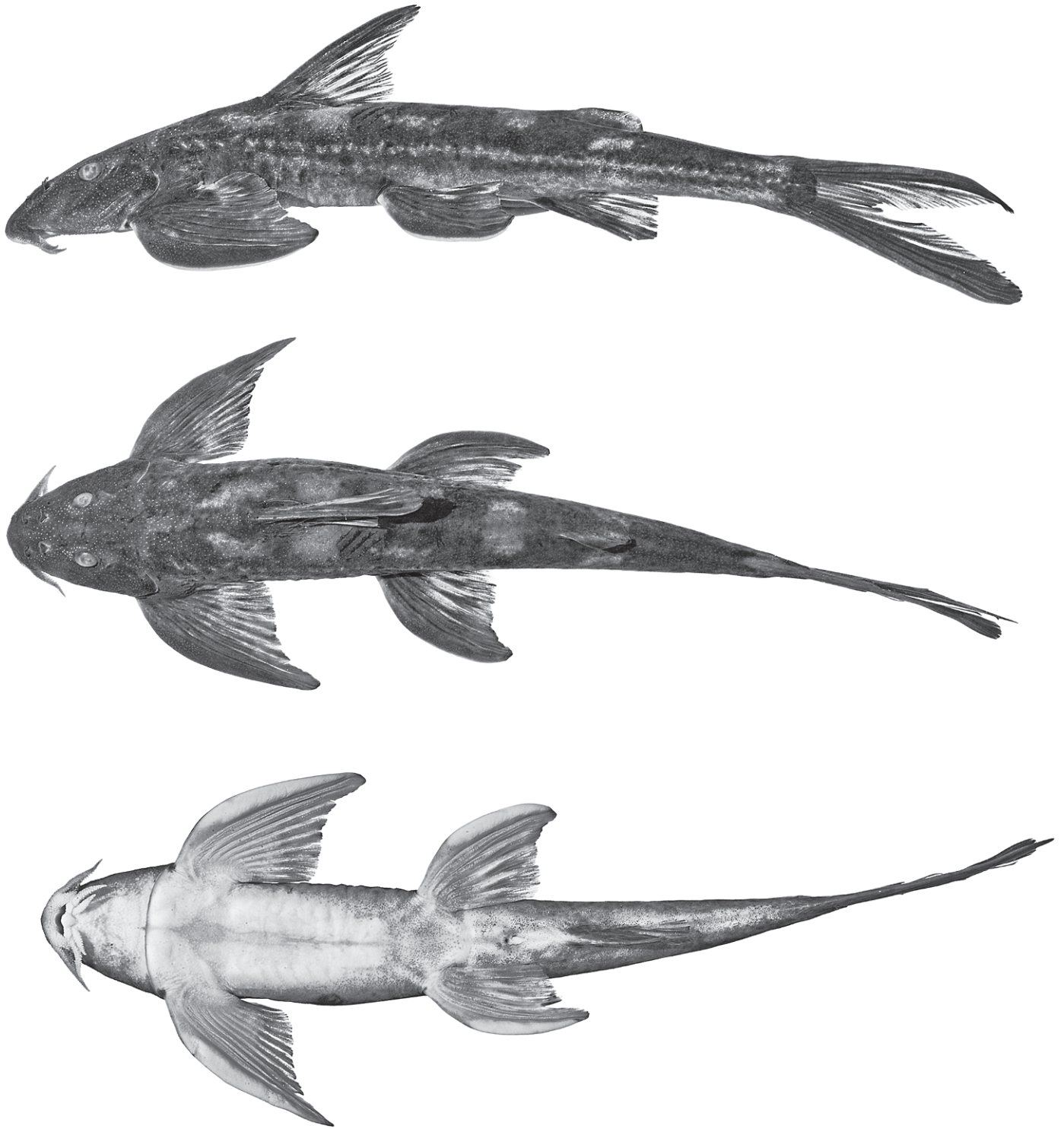


Fig. 4. *Congoglanis sagitta*, new species, holotype, CU 96001, 83 mm SL, Zambia, Luapula Province, Congo River basin, Luapula River drainage, Mulembo River at bridge on Mansa-Serenge road, 12°32'34"S, 30°23'24"E.

Lulua River, Kasai River basin, Katende 2, Dipumu, 6°00'27"S, 22°23'43"E. AMNH 247402, 7, 57–83 mm SL, Lulua River, Kasai River basin, Katende 1, Dipumu, 6°00'16"S, 22°23'26"E. MRAC 66469, 1, 71 mm SL, Chutes Guillaume, Kwango, 07°40'S, 21°59'E. MRAC 93786, 2, 48–56 mm SL, Lueta River, tributary of Kasai River, at Chutes de Bumba, 07°05'S, 21°59'E. Kasai Oriental: AMNH 251076, 1, 79 mm SL, Lulua River, Kasai River basin, Bunkonde, Kasende, 5°56'56"S, 22°32'18"E. AMNH 251104, 1, 123 mm SL, AMNH 251137, 1, 104 mm SL, Lulua River, Kasai River basin, Kampaya.

AMNH 251150, 2, 76–79 mm SL, Lulua River, Katende or Katempe rapids, Tshimbau. Maniema: MRAC 90-047-P-57-69, 13, 46–127 mm SL, Obaie River, tributary of Lubutu River, km 292 on Kisangani-Bukavu road (Lubutu River located at 0°44'S, 26°35'E). North Kivu: MRAC 7517, 1, 73 mm SL, Bosabangi, 01°27'N, 27°37'E. Republic of the Congo, Pool Région: AMNH 237536, 1, 55 mm SL, small gulley off main channel of Congo River, upstream of Foulakari River, 4°35'03"S, 14°59'29"E. AMNH 237547, 3 (of 4), 54–141 mm SL, Foulakari River, Kimpanzou 2 village, 4°35'40"S, 14°56'51"E. AMNH 240438, 6

(of 11), 36–89 mm SL, Chutes de Foulakari at Kimpanzou, near bridge over Foulakari, 4°35'40"S, 14°56'51"E. [Unidentified political unit]: AMNH 6595, 1, 37 mm SL (paratype of *Doumea alula*), Lower Congo River.

Congoglanis sagitta, new species

Figures 3, 4; Table 1

Doumea alula.—Balon and Stewart, 1983:223, 238, fig. 9k [Lualaba River, Luongo basin, Zambia].—Seegers, 2008:150 [questioned whether Luongo basin specimens were conspecific with *D. alula*].

Holotype.—CU 96001, 83 mm SL, Zambia, Luapula Province, Luapula drainage, Mulembo River at bridge on Mansa-Serenge road, 12°32'34"S, 30°23'24"E, R. Bills et al., 21 September 2005.

Paratypes.—Zambia: Luapula Province: AMNH 252564, 4, 40–91 mm SL, CU 91042, 19, 33–112 mm SL, MCZ 169062, 4, 37–94 mm SL, MRAC 2011-01-P-1–4, 4, 36–83 mm SL, SAIAB 76543, 35, 35–124 mm SL, USNM 399447, 4, 38–101 mm SL, Luapula River drainage, Mulembo River at bridge on Mansa-Serenge road, 12°32'34"S, 30°23'24"E, R. Bills et al., 21 September 2005 (collected with holotype). CU 91043, 28 (of 29), 32–78 mm SL, SAIAB 76923, 29, 34–99 mm SL, Luongo River at Mukonshi Bridge on Mwenda-Kawambwa road, 10°08'39"S, 29°10'01"E, R. Bills et al., 3 October 2005. Northern Province: CU 91046, 69 (of 71), 30–74 mm SL, SAIAB 77265, 71, 32–89 mm SL, Kapuma Falls on Mutoloshi River near Mporokoso, 9°23'18"S, 30°05'40"E, R. Bills et al., 9 October 2005. CU 91047, 7, 41–136 mm SL, SAIAB 77057, 8, 51–98 mm SL, Samfa Rapids at pontoon on Chambeshi River, 10°51'07"S, 31°10'00"E, R. Bills et al., 11 October 2005.

Diagnosis.—*Congoglanis sagitta* differs from *C. inga* in having a shorter maxillary barbel (not reaching to vertical through anterior margin of orbit, vs. extending well past anterior margin of orbit, respectively), a shallower caudal-peduncle depth (6% SL, vs. 7–8%, respectively) and more slender caudal peduncle (caudal-peduncle depth 3.1–4.0 times in caudal-peduncle length, vs. 2.1–2.9, respectively), a shorter pelvic fin (19–21% SL, vs. 22–25%, respectively), a more anteriorly placed anal fin (anal-fin origin well in advance of tip of adpressed pelvic fin, vs. origin approximately at tip of adpressed pelvic fin, respectively), shorter anal-fin rays (posterior rays of adpressed anal fin extend to, rarely slightly beyond, vertical through posterior limit of adipose fin, vs. posterior rays extend well past vertical through posterior limit of adipose fin, respectively), and more vertebrae (39–41, mode 40, vs. 35–37, mode 37, respectively). *Congoglanis sagitta* differs from *C. alula* in having a shorter pectoral fin (23–27% SL, vs. 28–29%, respectively), a shorter pelvic fin (19–21% SL, vs. 24–28%, respectively), a longer caudal peduncle (21–24% SL, mean 22.4, vs. 18–22% SL, mean 19.4, respectively) and more slender caudal peduncle (caudal-peduncle depth 3.1–4.0 times in caudal-peduncle length, vs. 2.6–3.3 times, respectively), a relatively wide interorbital width (2 times eye diameter, vs. 1.5 times, respectively), a more anteriorly placed anal fin (anal-fin origin well in advance of tip of adpressed pelvic fin, vs. origin approximately at tip of adpressed pelvic fin, respectively), and more vertebrae (39–41, mode 40, vs. 36–39, mode 37, respectively).

Description.—Maximum size: 136 mm SL. A slender species, with body very elongate, nearly cylindrical from head to anal-fin origin, with abdominal region slightly flattened, progressively tapering further posteriorly. Greatest body depth and width located at dorsal-fin origin. Body smooth skinned and firm. Dorsal and ventral profiles of body from head to vertical through anal fin nearly horizontal, but converge from vertical through anal-fin origin to posterior end of caudal peduncle. Lateral line complete, running along midlateral surface of body. Short, more-or-less uniformly spaced dorsal and ventral branches extend off main portion of lateral line. Body without dorsolateral or ventrolateral vertebral processes extending to skin surface from region of adipose-fin base posteriorly to caudal-fin base. Caudal peduncle elongate, slender and compressed, but nearly as wide as high at terminus of anal-fin base; its length approximately equal to head length. Least depth of caudal peduncle located approximately at posterior of peduncle.

Head profile acutely triangular from dorsal view with lateral margin slightly convex; snout tip rounded. Head pointed and depressed from lateral view. Snout moderately long, relatively slender and tapering anteriorly. Eye slightly horizontally elongated and situated entirely within posterior or one-half of head; without free orbital margin. Diameter of eye slightly more than one-half of interorbital distance. Distance from posterior naris to anterior margin of eye approximately equal to distance between anterior naris and tip of snout. Posterior naris closer to anterior naris than to eye. Distance between nares of each side slightly less than one-half distance of each to contralateral naris. Dorsal and lateral surfaces of head and body with scattered, tiny, white flattened tubercles (possibly free neuromast organs).

Mouth subterminal, small, ovoid when open, with fleshy tuberculate upper lip and smooth firm lower lip, flanked to each side by tuberculate section. Upper jaw with teeth in broad crescentic patch continuous across midline. Lower jaw with teeth in oval patch on each side of symphysis, with narrow median gap. Teeth in both jaws long, slender and slightly curved; numbers of teeth in upper and lower jaws about equal. Barbels tuberculate and distally tapered. Maxillary barbel falling short of vertical through anterior margin of eye. Inner mandibular barbel shortest, with base situated slightly lateral of midline and approximately in line with lateral margin of smooth portion of lower lip. Outer mandibular barbel arises from angle of mouth and extends posteriorly approximately to vertical through tip of maxillary barbel. Branchiostegal membrane continuous across ventral midline, with central portion of posterior margin straight or slightly concave. Gill slit extends posterodorsally to horizontal through eye. Supraoccipital process elongate and slightly wider near posterior tip; process separated by small gap from small triangular nuchal shield.

Dorsal fin falcate, first branched ray longest. Tip of adpressed dorsal fin extends past vertical through base of pelvic fin. First dorsal-fin ray segmented, not forming spine. Adipose-fin origin located at vertical through anal-fin origin; fin small, with length of base approximately one-half distance between posterior terminus of dorsal-fin base and adipose-fin origin. Adipose fin adnate, with posterior limit of fin at vertical through tip of adpressed anal fin. Pectoral fin large and falcate, with first ray curved, pectinate, broad and with fleshy pad covering ventral surface; distal margin of fin slightly concave, with first ray longest. Innermost pectoral-fin rays short, posterodorsally oriented

and adpressed to body wall. Tip of adpressed pectoral fin falling far short of pelvic-fin origin and falling short of vertical through posterior terminus of dorsal-fin base. Pelvic fin moderately large but distinctly smaller than pectoral fin; distal margin slightly concave, with first ray longest. First pelvic-fin ray curved and pectinate, with ventral surface covered by fleshy pad. Pelvic-fin origin located distinctly posterior of vertical through posterior end of dorsal-fin base. Tip of adpressed pelvic fin extends to, or nearly to, anal-fin origin. Anal fin small, with distal margin straight. Tip of adpressed anal fin extends to vertical through posterior limit of adipose fin. Anal-fin base slightly greater than one-half length of adipose-fin base. Caudal fin deeply forked, asymmetrical, with ventral lobe longer and broader than dorsal lobe. Fin lobes large and acutely pointed. Middle rays of caudal fin slightly less than one-half length of longest rays of dorsal lobe. Dorsal-fin rays i,6,i(1), or i,7*(6); pectoral-fin rays i,11*(5), i,11,i(1), or i,12(1); pelvic-fin rays i,5*(7); anal-fin rays iv,5,i(1), iv,6(2), iv,6,i*(1), iii,6,i(1), or iii,7(2); principal caudal-fin rays i,7,8,i(7). Vertebrae 39(8), 40(20), or 41(2). Ribs 12(7), 13(22), or 14(1).

Coloration in alcohol.—Body coloration generally dark, with variably distinct lighter regions on overall dark brown body. Body darker dorsally with brown coloration extending ventral of lateral line on abdomen and caudal peduncle; boundary between dark brown pigmentation of dorsal and dorsolateral regions and lighter coloration of ventrolateral and ventral regions relatively straight and horizontal from pectoral-fin base to caudal peduncle.

Six pale patches distributed in irregular horizontal pattern along dorsolateral part of body. Anteriormost patch ovoid, horizontally elongated, extending just dorsal of lateral line and extending posteriorly to point somewhat anterior to slightly posterior of vertical through dorsal-fin origin. Second patch rounded or somewhat square, centered along vertical through posterior terminus of dorsal-fin base. Third patch horizontally elongated and slender; patch extending above lateral line from vertical through pelvic-fin origin to vertical through midlength of adpressed pelvic fin. Ventral margin of fourth patch variably somewhat more dorsally positioned than dorsal margin of third patch. Contralateral fourth patches in contact along dorsal midline and forming saddle immediately anterior of adipose-fin base. Fifth patch horizontally elongated and located entirely above lateral line; patch extends from vertical through middle of adipose fin to vertical through posterior limit of that fin. Sixth patch horizontally elongated and of variable length on posterior half of caudal peduncle, terminating posteriorly at anterior limit of dark spot at caudal-fin base. Dark spot at caudal-fin base semicircular; straight anteriorly and broadly convex posteriorly. Spot extending nearly to dorsal and ventral margins of caudal peduncle. Ventrolateral portion of abdomen and ventral part of caudal peduncle with scattered dark chromatophores, but chromatophores absent on ventral portion of abdomen as far posterior as pelvic fin. Pale stripe extends along entire extent of lateral line.

Dorsal and lateral portions of head dark brown other than variably shaped pale spot immediately posterior of eye; spot smaller than, or approximately equal in size to, eye. Ventral part of head pale with diffuse region between brown and pale portions ventrolaterally. Maxillary barbel with dusky base dorsally, otherwise unpigmented. Mandibular barbels unpigmented.

Dorsal surfaces of pectoral and pelvic fin brown except for unpigmented transverse patch extending across central portion of inner rays and pale distal margin. Ventral surfaces of pectoral and pelvic fins without chromatophores except for small patch along basal portion of innermost rays. Dark pigmentation on dorsal surface of distal portions of rays appears as dusky region extending along sub-marginal portion of ventral surface of both fins.

Dorsal fin with dense concentrations of dark chromatophores along rays; interradiation membranes sometimes with few scattered chromatophores. Adipose fin darkly pigmented basally and dusky more distally; sometimes with narrow dark distal margin. Anal fin with dense concentrations of dark chromatophores along rays. Interradiation membranes of anal fin with dark chromatophores; chromatophores more concentrated on anterior portion of fin. Caudal fin with scattered dark chromatophores on all rays, but most concentrated on first and second branched rays of each lobe, giving appearance of dark stripe along each lobe. Interradiation membranes of caudal fin with few scattered chromatophores.

Distribution.—Tributaries of Lake Mweru and the Luongo and Chambeshi rivers, all tributaries of the Lualaba River, Congo River Basin, Zambia.

Habitat.—See comments in account of *Congoglanis alula*.

Etymology.—The name *Congoglanis sagitta*, Latin for arrow, refers to the slender, streamlined shape of this species relative to that of its congeners. A noun in apposition.

***Congoglanis inga*, new species**

Figures 3, 5; Table 1

Doumea alula.—Roberts and Stewart, 1976:252, 310 [collection near Inga I Dam, lower Congo River].

Holotype.—MCZ 169063, 91 mm SL, Democratic Republic of the Congo, Congo River near Inga I Dam, 5°31'30"S, 13°37'30"E, T. R. Roberts and D. J. Stewart, 4 August 1973.

Paratypes.—AMG P-8833, 5, 78–105 mm SL (1 CS), AMNH 252565, 5, 61–102 mm SL, CU 96003, 5, 62–88 mm SL, MCZ 50534, 11, 52–111 mm SL (2 CS), MRAC 2011-01-P-5–9, 5, 64–99 mm SL, USNM 216351, 5, 50–105 mm SL, USNM 399446, 10 (1 CS), 68–106 mm SL, Democratic Republic of the Congo, Congo River near Inga I Dam, 5°31'30"S, 13°37'30"E, T. R. Roberts and D. J. Stewart, 4 August 1973 (collected with holotype).

Diagnosis.—*Congoglanis inga* differs from *C. sagitta* in having a longer maxillary barbel (reaching well past vertical through anterior margin of orbit, vs. not reaching to orbit, respectively), a deeper caudal peduncle (7–8% SL, vs. 6%, respectively) and less slender caudal peduncle (caudal-peduncle depth 2.1–2.9 times in caudal-peduncle length, vs. 3.1–4.0, respectively), a longer pelvic fin (22–25% SL, vs. 19–21%, respectively), a more posteriorly placed anal fin (anal-fin origin approximately at tip of adpressed pelvic fin, vs. origin well in advance of tip of adpressed pelvic fin, respectively), longer anal-fin rays (posterior rays of adpressed anal fin extend well past vertical through posterior limit of adipose fin, vs. posterior rays extend to, rarely slightly beyond, vertical through posterior limit of adipose

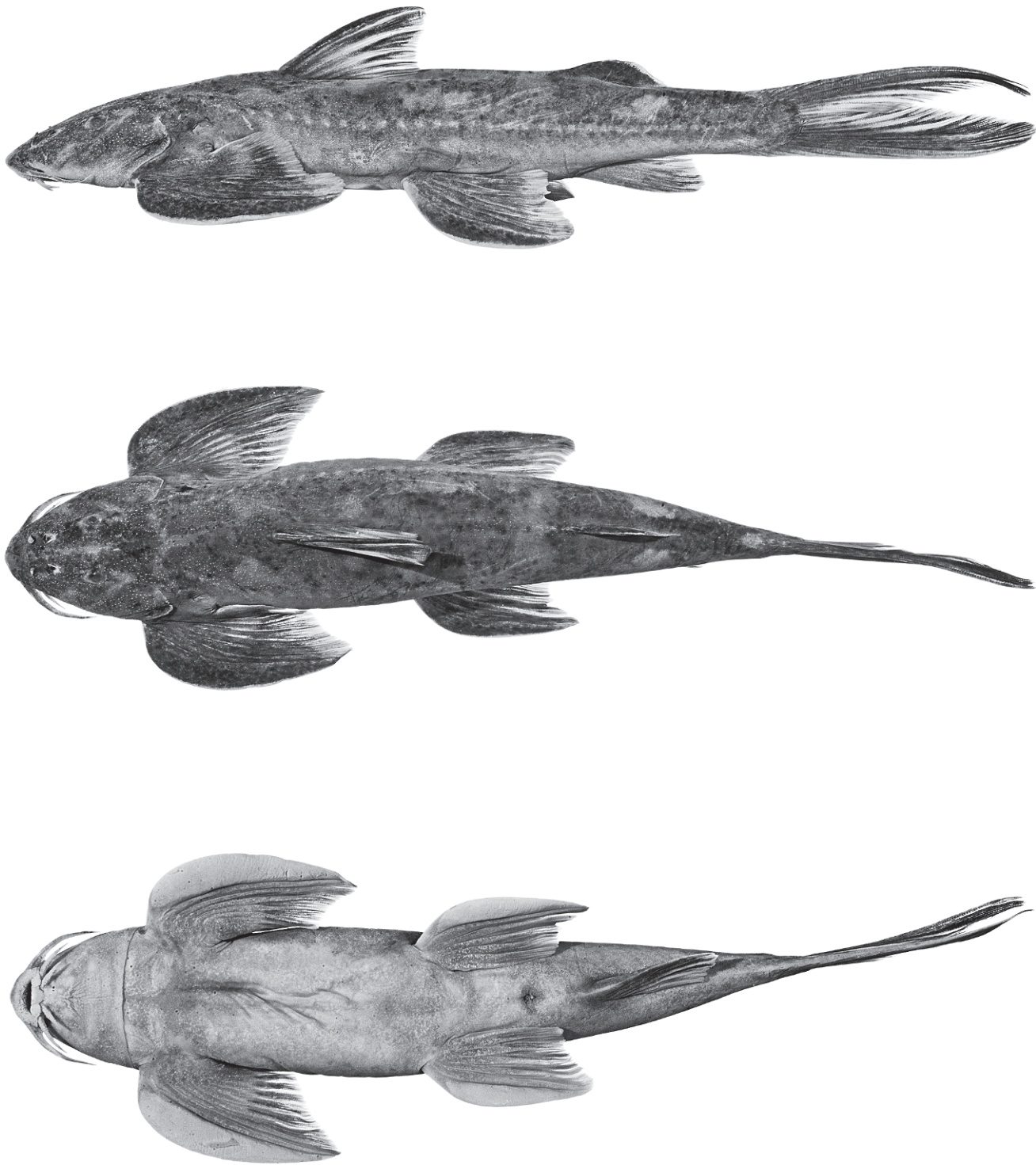


Fig. 5. *Congoglanis inga*, new species, holotype, MCZ 169063, 91 mm SL, Democratic Republic of the Congo, Congo River near Inga I Dam, 5°31'30"S, 13°37'30"E.

fin, respectively), and fewer vertebrae (35–37, mode 37, vs. 39–41, mode 40, respectively). *Congoglanis inga* differs from *C. alula* in having a longer maxillary barbel (reaching well past vertical through anterior margin of orbit, vs. not reaching to orbit, respectively), a shorter pelvic fin (19–21% SL, vs. 24–28%, respectively), a longer postorbital length (32–35% HL, vs. 27–31%, respectively), a relatively wide interorbital width (2 times eye diameter, vs. 1.5 times, respectively), and longer anal-fin rays (posterior rays of adpressed anal fin extend well past vertical through

posterior limit of adipose fin, vs. posterior rays extend to, rarely slightly beyond, vertical through posterior limit of adipose fin, respectively).

Description.—Maximum size: 111 mm SL. A relatively robust species, with body somewhat elongate, nearly cylindrical from head to anal-fin origin, with abdominal region slightly flattened, progressively tapering further posteriorly. Greatest body depth and width located at dorsal-fin origin, except in specimens with distended abdomens. Body smooth skinned

and firm. Dorsal and ventral profiles of body from head to vertical through anal fin nearly horizontal but converge from vertical through anal-fin origin to posterior end of caudal peduncle. Lateral line complete, running along midlateral surface of body. Short, more-or-less uniformly spaced, dorsal and ventral branches extend off main portion of lateral line. Body without dorsolateral or ventrolateral vertebral processes extending to skin surface from region of adipose-fin base posteriorly to caudal-fin base. Caudal peduncle relatively short, thick, and compressed, but nearly as wide as high at terminus of anal-fin base. Least depth of caudal peduncle approximately located at middle of its length.

Head profile acutely triangular from dorsal view with lateral margin straight or slightly convex; snout tip rounded. Head pointed and depressed from lateral view. Snout moderately long, relatively slender and tapering anteriorly. Eye horizontally elongated and situated entirely within posterior half of head; without free orbital margin. Diameter of eye approximately one-half of interorbital distance. Distance from posterior naris to anterior margin of eye only slightly less than distance between anterior naris and tip of snout. Posterior naris closer to anterior naris than to eye. Distance between nares of each side slightly more than one-half distance of each to contralateral naris. Dorsal and lateral surface of head and body with scattered, tiny, white flattened tubercles (possibly free neuromast organs).

Mouth subterminal, small, ovoid when open, with fleshy tuberculate upper lip and smooth firm lower lip, flanked to each side by tuberculate section. Upper jaw with teeth in broad crescentic patch continuous across midline. Lower jaw with teeth in oval patch on each side of symphysis, with narrow median gap. Teeth in both jaws long, slender and slightly curved; numbers of teeth in upper and lower jaws about equal. Barbels tuberculate and distally tapered. Maxillary barbel longest, reaching well past vertical through anterior margin of eye and extending to, or nearly to, margin of branchiostegal membrane. Inner mandibular barbel shortest, with base situated slightly lateral of midline and approximately in line with lateral margin of smooth portion of lower lip. Outer mandibular barbel arises from angle of mouth and extends posteriorly approximately one-half distance to branchiostegal membrane. Branchiostegal membrane continuous across ventral midline, with central portion of posterior margin straight or slightly concave. Gill slit extends posterodorsally to horizontal through eye. Supraoccipital process elongate and slightly wider near posterior tip; process separated by small gap from small triangular nuchal shield.

Dorsal fin falcate, first branched ray longest. Tip of adpressed dorsal fin extends past vertical through base of pelvic fin. First dorsal-fin ray segmented, not forming spine. Adipose-fin origin located at vertical through anal-fin origin; fin small, length of fin base approximately one-half distance between posterior terminus of dorsal-fin base and adipose-fin origin. Adipose fin adnate, posterior limit of fin situated posterior of vertical through anal-fin base, but not past posterior of vertical through tip of adpressed anal fin. Pectoral fin large and falcate, with first ray curved, pectinate, broad and with fleshy pad covering ventral surface; distal margin of fin slightly concave, with first ray longest. Innermost pectoral-fin rays short, posterodorsally oriented and adpressed to body wall. Tip of adpressed pectoral fin falling short of pelvic-fin origin and reaching to vertical

through posterior terminus of dorsal-fin base. Pelvic fin large, but markedly smaller than pectoral fin; distal margin slightly concave, with first ray longest. First pelvic-fin ray curved and pectinate, with ventral surface covered by fleshy pad. Pelvic-fin origin located distinctly posterior of vertical through posterior end of dorsal-fin base. Tip of adpressed pelvic fin extends to, or slightly beyond, anal-fin origin. Anal fin small, with distal margin straight. Tip of adpressed anal fin extends past vertical through posterior base of adipose fin. Anal-fin base approximately one-half length of adipose-fin base. Caudal fin deeply forked, asymmetrical, with ventral lobe longer and broader than dorsal lobe. Fin lobes acutely pointed. Middle rays of caudal fin slightly less than one-half length of longest rays of dorsal lobe. Dorsal-fin rays $i,6^*(3)$, $i,6,i(2)$, or $i,7(5)$; pectoral-fin rays $i,11^*(8)$ or $i,12(2)$; pelvic-fin rays $i,5^*(10)$; anal-fin rays $iv,6^*(5)$ or $iv,7(5)$; principal caudal-fin rays $i,7,8,i^*(10)$. Vertebrae $35(1)$, $36(2)$, or $37(12)$. Ribs $11(8)$ or $12(7)$.

Coloration in alcohol.—Body coloration generally dark, with variably distinct lighter regions on overall dark brown body. In lightly pigmented specimens, body darker dorsally with brown coloration extending ventral of lateral line on abdomen and caudal peduncle. Boundary between dark brown pigmentation of dorsal and dorsolateral regions and lighter coloration of ventrolateral and ventral regions relatively straight and horizontal from pectoral-fin base to caudal peduncle. Darker individuals with boundary obscured and appearing to extend further ventrally before gradually becoming somewhat lighter.

Lightly pigmented specimens with six pale patches distributed in irregular horizontal line along dorsolateral part of body. Anteriormost patch ovoid, horizontally elongated, extending just dorsal of lateral line anterior of dorsal-fin origin. Second patch vertically elongated, located just past posterior extent of dorsal-fin base; patch extends dorsally to midline, appearing as saddle in dorsal view. Third patch horizontally elongate, slender; patch extending above lateral line from immediately posterior of second patch to past middle of interspace between dorsal-fin base and adipose-fin origin. Fourth patch somewhat more dorsally placed than third; contralateral fourth patches in contact along dorsal midline and form saddle immediately anterior of adipose-fin base. Fifth patch extends from level of middle of adipose fin past posterior extent of that fin; patch horizontally elongate, entirely above lateral line. Sixth patch small and round, positioned immediately anterior of caudal-fin base near dorsal midline. In darkly pigmented specimens, pale patches quite obscured, with some or all barely visible. Ventrolateral portion of abdomen and ventral part of caudal peduncle with scattered dark chromatophores, but chromatophores absent on ventral portion of abdomen as far posterior as pelvic fin, even in darker examined specimens. Lateral-line canal with pale superficial canal branches.

Dorsal and lateral portions of head dark brown other than for variably shaped pale spot immediately posterior of eye; spot smaller than, to approximately same size as, eye. Ventral part of head pale with distinct horizontal line between brown and pale portions ventrolaterally. Maxillary barbel dusky, especially dorsally. Mandibular barbels unpigmented.

Dorsal surfaces of pectoral- and pelvic-fin rays brown, without pattern except for pale distal margins. Ventral surface of pectoral fin without chromatophores except for

small patch along basal portion of innermost rays. Ventral surface of pelvic fin without chromatophores.

Dorsal fin with dense concentrations of dark chromatophores along anterior rays; interradiation membranes and posterior rays without chromatophores. Adipose fin darkly pigmented, except for fine pale distal margin. Anal fin with dense concentration of dark chromatophores along anterior rays; posterior rays without chromatophores. Caudal fin with broad dark stripes running along length of unbranched principal rays and adjacent branched rays; middle rays dusky.

Habitat.—The specimens that are the basis of this description were reported to have been collected from “a long channel with moderate current, numerous pools and a predominantly rocky bottom” (Roberts and Stewart, 1976:310).

Distribution.—Known only from the type locality, in the vicinity of Inga I Dam, which was described by Roberts and Stewart (1976:248) as a stretch of the Congo River “at a place about on, or two kilometers upstream from, the mouth of a large high gradient tributary, the rivière Lufu.”

Etymology.—Named for the Inga Rapids, on the lower Congo River. A noun in apposition.

KEY TO THE SPECIES OF CONGOGLANIS

- 1a. Maxillary barbel extends well past anterior margin of orbit (lower Congo River, in the vicinity of Inga Rapids, Democratic Republic of the Congo) *Congoglanis inga*, new species
- 1b. Maxillary barbel not reaching to anterior margin of orbit 2
- 2a. Pectoral fin 28–29% SL, pelvic fin 24–28% SL, caudal-peduncle depth 2.6–3.3 times in caudal-peduncle length, anal-fin origin approximately at tip of adpressed pelvic fin (middle reaches of Congo River system and tributaries, in the Democratic Republic of the Congo and the Central African Republic) *Congoglanis alula*
- 2b. Pectoral fin 23–27% SL, pelvic fin 19–21% SL, caudal-peduncle depth 3.1–4.0 times in caudal-peduncle length, anal-fin origin well in advance of tip of adpressed pelvic fin (tributaries of Lake Mweru and the Luongo and Chambeshi rivers, Zambia) *Congoglanis sagitta*, new species

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