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A review of the genus *Pareuchiloglanis* (Sisoridae) from the Lancangjiang (upper Mekong River) with descriptions of two new species from Yunnan, China

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Abstract

This study reports five species of *Pareuchiloglanis* in the Lancangjiang drainage of China, including descriptions of two new species: *P. abbreviatus* **sp. nov.**, *P. gracilicaudata*, *P. kamengensis*, *P. myzostoma* and *P. prolixdorsalis* **sp. nov.** The two new species are distinguished from *P. feae*, *P. poilanei*, *P. sichuanensis* and *P. tianquanensis* by a shorter adipose-fin base and the adipose-fin base being separated from the caudal fin, differ from *P. sinensis*, *P. macrotrema*, *P. longicauda* and *P. rhabdurus* by a more restricted gill opening (not reaching the base of the first pectoral-fin element ventrally), and differ from *P. songmaensis* by an anal-fin ray count of ii-3-4 (vs. ii-8). *Pareuchiloglanis abbreviatus* is distinguished from congeners by the tip of the dorsal fin reaching the origin of the adipose fin when depressed. *Pareuchiloglanis prolixdorsalis* is distinguished from *P. gongshanensis*, *P. macropterus* and *P. kamengensis* by lacking a sulcus between the lower lip and the base of the maxillary barbel, and differs from *P. anteanalis* by the shorter pectoral fin, the pectoral fin not reaching to the origin of pelvic fin. It differs from *P. gracilicaudata*, *P. myzostoma*, *P. nebulifer* and *P. robusta* by a caudal-fin ray count of 6+7 (vs. 7+8), and differs from *P. abbreviatus* by the tip of dorsal fin not reaching to the origin of the adipose fin when depressed (vs. reaching). It differs from *P. songdaensis* by the distance between the origin of the pelvic fin to the base of the anal fin being longer than that to the mouth (vs. equal).

Key words: *Pareuchiloglanis*; New species; Sisoridae; Lancangjiang (upper Mekong River)

Introduction

The Lancangjiang (upper Mekong River) originates at Zaaqu, the southern glacier of Lasaigongma Mountain, Zaqing County, Qinghai Province. Total length of the Mekong River is about 4879.6 km, and the drainage area is about 8.1×10^5 km^2. The length of the Lancangjiang in China is about 2162 km (He 1995a). The Mekong River passes through six countries, China, Myanmar, Laos, Thailand, Cambodia and Vietnam, and then flows into the South China Sea. Three species of *Pareuchiloglanis* have been recorded in the Mekong River: *P. kamengensis*, *P. myzostoma* and *P. gracilicaudata* (Chu 1979; Wu & Chen 1979; Chu *et al.* 1990; Chu & Mo 1999; Ng & Kottelat 2000; Thomson & Page 2006). Ding (2003) reported that *P. feae* was also distributed in the Lancangjiang drainage, but this was not based on specimens. This species has also been reported from the Irrawaddy drainage (Chu *et al.* 1990; Chu & Mo 1999), but Ng (2004) reported that the material identified by Chu *et al.* (1990) is characterized by distinctly separate (vs. confluent) adipose and caudal fins and therefore does not appear to be *P. feae*. Ng (2004) suggested that specimens of *P. kamengensis* recorded from the Mekong River drainage might be *P. macropterus*, a species known from the Nujiang (upper Salween River), but he noted that the identity needs to be verified.

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The sisorid catfish genus *Pareuchiloglanis* Pellegrin (1936) belongs to the subfamily Glyptosterninae, and the tribe Glyptosternina, a group distinguished from other sisorid catfishes by the combination of no adhesive apparatus on the thorax and the presence of plaited adhesive organs on the paired-fins. The genus is diagnosed from other genera in the subfamily by the following unique combination of characters: an interrupted post-labial groove, the gill openings not extending onto the venter, homodont dentition characterized by pointed teeth in both jaws, and the tooth band in the upper jaw not produced posteriorly at the sides (Pellegrin 1936; Chu 1981; Thomson & Page 2006). A total of eighteen species are recognized: *P. anteanalis*, *P. feae*, *P. gongshanensis*, *P. gracilicaudata*, *P. kamengensis*, *P. longicauda*, *P. macropterus*, *P. macrotrema*, *P. myzostoma*, *P. nebulifer*, *P. poilanei*, *P. rhabdurus*, *P. robusta*, *P. sichuanensis*, *P. sinensis*, *P. songdaensis*, *P. songmaensis* and *P. tianquanensis* (Thomson & Page 2006).

Three described species of *Pareuchiloglanis* are known in the Lancangjiang drainage: *P. gracilicaudata*, *P. kamengensis*, and *P. myzostoma*. After examining specimens referable to *Pareuchiloglanis* collected from the Lancangjiang drainage, some specimens were found to belong to two undescribed species. This prompted the authors to compare all materials known from the area with all nominal species of the genus *Pareuchiloglanis*. In this paper the authors describe *P. abbreviatus* and *P. prolixdorsalis* as new species and briefly redescribe *P. gracilicaudata*, *P. kamengensis* and *P. myzostoma*.

Method and materials

Methods of measurement and counts follow Ng (2004), except body depth is measured at the front of the dorsal fin, not at the anus. In addition, distance between pectoral-fin origin and pelvic-fin origin (Pt-Pl) and distance between pelvic-fin origin and anus origin (Pl-A) were measured. Measurements were made point to point with digital calipers and data recorded to tenths of a millimeter. Counts and measurements were made on the left side of specimens whenever possible. Subunits of the head are presented as proportions of head length (HL). Head length and measurements of body parts are given as proportions of standard length (SL). Information on specimens is given as follows: catalog number, number of examined specimens (ex.), total length (TL), standard length and collecting locality.

Data on *Pareuchiloglanis songdaensis* and *P. songmaensis* are from Nguyen & Nguyen (2001). Materials examined in this study are deposited in the following institutions: Museum of Zoology, Southwest Forestry College, Kunming (SWFC) and British Museum of Natural History, London (BMNH).

Pareuchiloglanis abbreviatus sp. nov.

(Fig. 1)

Holotype. SWFC 0311021, 115.2 mm TL, 97.2 mm SL; Chuanghe (upper Lixianjiang, branch of Red River), Mona (22°27'54"N 100°46'79"E), Jingdong County, Yunnan Province, Q. Wang, 1 Nov. 2003.

Paratypes. SWFC 0311022, 0311024 (2; 78.0–99.6 mm TL, 66.0–85.2 mm SL), same data as holotype. SWFC 0303248 (1; 125.8 mm TL, 112.2 mm SL), Xiaobahe (upper Weiyuanjiang, branch of the Lancangjiang), Donggualin (24°18.43N 100°46.61E), Zhenyuan County, Yunnan Province, W. Zhou & Q. Wang, 29 Sept. 2003.

Diagnosis. Characters distinguishing *Pareuchiloglanis abbreviatus* from *P. gracilicaudata*, *P. kamengensis*, *P. myzostoma* and *P. prolixdorsalis* are summarized in Table 1. A species of *Pareuchiloglanis* with the following unique combination of characters: adipose-fin base not confluent with caudal fin (vs. confluent); premaxillary tooth patches appear joined (vs. separate); lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (vs. not connected, with sulcus); 6 upper + 7 lower branched caudal-fin rays (vs. 7+8); dorsal fin i-5 (vs. i-7); anal fin ii-3 (vs. ii-8); pelvic-fin origin to anal-fin origin distance

shorter than pelvic-fin origin to mouth distance (vs. equal); pectoral fin extending beyond pelvic-fin origin (vs. not reaching); origin of pelvic fin anterior to end of dorsal-fin base (vs. opposite to or posterior to end of dorsal-fin base); anus nearer to posterior end of pelvic-fin base than anal-fin origin (vs. nearer to anal-fin origin); anal-fin origin nearer to posterior end of pelvic-fin base than to caudal-fin base (vs. nearer to caudal-fin base); short interdorsal, tip of dorsal-fin reaching origin of adipose fin when depressed (vs. not reaching); snout length 49.1–52.9% HL; predorsal length 26.1–27.8% SL; head length 25.7–28.0% SL; head width 26.8–27.2% SL; caudal peduncle length 22.4–26.2% SL; and caudal peduncle depth 4.8–6.6% SL.

TABLE 1. Summary of main characters distinguishing *Pareuchiloglanis abbreviatus, P. gracilicaudata, P. kamengensis, P. myzostoma* and *P. prolixdorsalis.*

Character	*P. abbreviatus*	*P. gracilicaudata*	*P. kamengensis*	*P. myzostoma*	*P. prolixdorsalis*
Premaxillary tooth patches	Appear joined	Appear joined	Separate	Appear joined	Appear joined
Pelvic fin reaching anus	Yes; extending beyond anus	Yes	No	No	Yes
Branched caudal-fin rays	6+7	7+8	7+8	7+8	6+7
Distance between origin of pelvic fin to origin of anal fin	Shorter than distance to mouth	Shorter than distance to mouth	Shorter than distance to mouth	Shorter than distance to mouth	Longer than distance to mouth
Anus position	Nearer pelvic-fin base than anal-fin origin	Midway between anal-fin origin and pelvic-fin base	Nearer anal-fin origin than end of pelvic-fin base	Nearer anal-fin origin than pelvic-fin base	Nearer pelvic-fin base than anal-fin origin
Origin of anal fin	Nearer pelvic-fin base than caudal-fin base	Midway between pelvic-fin base and caudal-fin base	Nearer caudal-fin base than pelvic-fin base end	Nearer caudal-fin base than pelvic-fin base end	Nearer caudal-fin base than pelvic-fin base end
Snout length (% HL)	49.1–52.9	58.3–81.3	46.7–62.5	47.2–52.0	50.9–64.3
Caudal peduncle length (% SL)	22.4–26.2	18.6–22.8	9.5–20.4	17.0–19.3	18.2–22.2
Caudal peduncle depth (% SL)	4.8–6.6	3.5–6.0	6.5–8.9	5.0–5.9	4.5-5.6

Pareuchiloglanis abbreviatus is distinguished from *P. gongshanensis, P. feae, P. kamengensis* and *P. macropterus* by the following characters: premaxillary tooth patches appear joined with median indentation (vs. separate) (Fig. 2A); lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (vs. not connected, with sulcus) (Fig. 3A). It differs from *P. gracilicaudata, P. longicauda, P. macrotrema, P. myzostoma, P. robusta* and *P. sinensis* by its longer pectoral fin, pectoral fin extending beyond origin of pelvic fin (vs. not reaching), and differs from *P. anteanalis, P. nebulifer* and *P. prolixdorsalis* by tip of dorsal fin reaching origin of adipose fin when depressed (vs. not reaching). It differs from *P. feae, P. poilanei, P. sichuanensis* and *P. tianquanensis* by its adipose-fin base not being confluent with caudal fin (vs. confluent). *Pareuchiloglanis abbreviatus* differs from *P. gracilicaudata, P. myzostoma, P. nebulifer* and *P. robusta* by having 6+7 branched caudal-fin rays (vs. 7+8). It differs from *P. songmaensis* by having fewer fin rays, dorsal fin i-5, anal fin ii-3 (vs. i-7, ii-8) and differs from *P. longicauda* and *P. sinensis* by having origin of pelvic fin anterior to end of dorsal-fin base (vs. opposite to or posterior to end of dorsal-fin base). *Pareuchiloglanis abbre-*

viatus differs from *P. songdaensis* by having distance between pelvic-fin origin to anal-fin origin shorter than that to mouth (vs. equal), and longer head, head length 25.7–28.0% SL (vs. 21.5% SL). It differs from *P. macrotrema* and *P. rhabdurus* by having origin of anal fin nearer to posterior end of pelvic-fin base (vs. nearer to caudal-fin base). It differs from *P. rhabdurus* by the following characters: shorter snout, 49.1–52.9% HL (vs. 57.0% HL), shorter predorsal length, 26.1–27.8% SL (vs. 34.6% SL), wider head, width 26.8–27.2% SL (vs. 20.1% SL), and longer caudal peduncle, 22.4–26.2% SL (vs. 17.6% SL). *Pareuchiloglanis abbreviatus* differs from *P. sichuanensis* and *P. sinensis* by narrower caudal peduncle, 4.8–6.6%SL (vs. 7.8–11.4% SL). It further differs from *P. gongshanensis*, *P. kamengensis*, *P. macropterus* and *P. myzostoma* by having the anus nearer the posterior end of the pelvic-fin base (vs. nearer anal-fin origin).

FIGURE 1. *Pareuchiloglanis abbreviatus*, SWFC 0311021, holotype, 97.2 mm SL; Mona, Jingdong county, Yunnan province, China. Dorsal, lateral and ventral views.

Description. Morphometric and meristic data are in Table 2. Mouth wide, inferior, transverse. Anterior margin of premaxillary tooth patches exposed when mouth closed. Oral teeth coniform, embedded in skin, only tips exposed, irregular rows. Premaxillary tooth patches broad, appear joined, with median indentation,

sides not extending backwards (Fig. 2A). Gill opening extending from posttemporal region to base of second pectoral-fin element. Post-labial groove interrupted, ending at base of inner mandibular barbel. Lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (Fig. 3A).

Head compressed, rostral margin rounded when viewed dorsally. Head and abdominal region moderately broad. Dorsal profile rising gradually from tip of snout to origin of dorsal fin, then sloping slowly ventrally to end of caudal peduncle. Oral region, anterior part of abdomen with dense papillae; density gradually decreasing posteriorly. Eye small, almost round, subcutaneous, dorsal. Eye closer to tip of snout than to dorsalmost extremity of gill opening. Barbels flattened, in four pairs. Nasal barbel with small flap of thin skin fringing posterior margin, reaching anterior margin of orbital. Maxillary barbel with thin flap of skin fringing posterior margin, pointed tip, extending to or beyond origin of pectoral fin. Origin of inner mandibular barbel close to midline. Outer mandibular barbel originating posterolateral of inner mandibular barbel, reaching nearly to first pectoral-fin element.

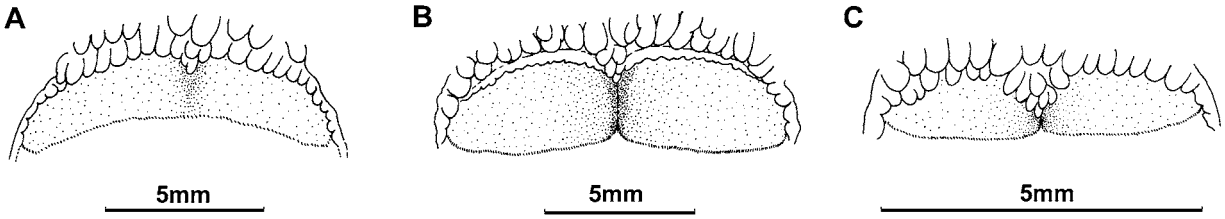

FIGURE 2. Ventral view of premaxillary tooth band. A, premaxillary tooth patches appear joined with a shallow median indentation (*Pareuchiloglanis gracilicaudata*, SWFC 0004052, 110 mm SL); B, premaxillary tooth patches appear separate with a deep median indentation (*Pareuchiloglanis kamengensis* SWFC 0411001, 149 mm SL); C, premaxillary tooth patches separate (*Oreoglanis setiger*, SWFC 0411019, 94.4 mm SL).

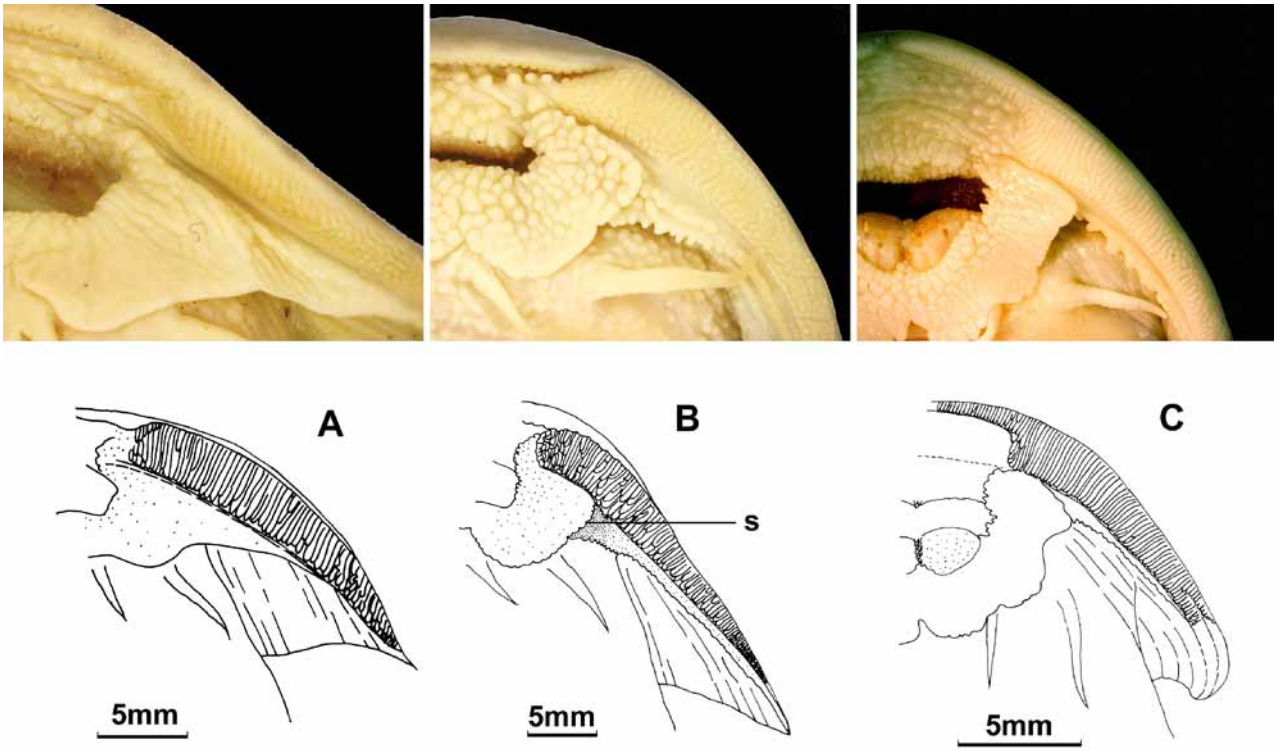

FIGURE 3. Ventral view of maxillary barbel and lower lip. A, maxillary barbel and lower lip connected directly (*Pareuchiloglanis gracilicaudata*, SWFC 0004052, 110 mm SL); B & C, maxillary barbel and the lower lip interrupted by an obvious sulcus (s) (B, *Pareuchiloglanis kamengensis*, SWFC 0411001, 149 mm SL; C, *Oreoglanis setiger*, SWFC 0411019, 94.4 mm SL).

Dorsal fin at point through anterior third of body; without spine, margin straight, tip of dorsal-fin rays extending beyond vertical through posterior end of pelvic-fin base, to origin of adipose fin when depressed. Adipose fin with long base, at least half of postdorsal distance; fin margin almost straight for entire length, adipose-fin base deeply incised posteriorly. Base of adipose fin shorter than predorsal length. Origin of anal fin anterior, distance to caudal-fin base longer than to origin of pelvic fin. Pectoral and pelvic fins enlarged, with broadly rounded margins, first element on each broadened, with regular striae on ventral surface. Pectoral fin extending beyond origin of pelvic fin. Pelvic fin extending beyond anus. Anus nearer to posterior end of pelvic-fin base than to anal-fin origin. Caudal fin truncate. Skin smooth. Lateral line complete and midlateral.

Colouration. Green-yellow on dorsal surface, milk-white on venter. Light yellow spot on posttemporal area. Pair of yellow spots on dorsal, adipose and caudal fins. Pectoral and pelvic fins green-yellow with lighter colour around distal edge. Dorsal fin green-yellow with lighter medial band and distal edge. Caudal fin gray-black with small yellow patch in middle.

Distribution. Known from the Lancangjiang [Mekong] and the Lixianjiang [Red River] drainages (Fig. 4).

Etymology. From the Latin *abbreviatus*, meaning shortened, in reference to abdominal region shorter than other congeners. Used as an adjective.

Remark. There are no notable differences in counts and proportional measurements between specimens from the Lancangjiang [Mekong] and the Lixianjiang [Red River] (Table 2).

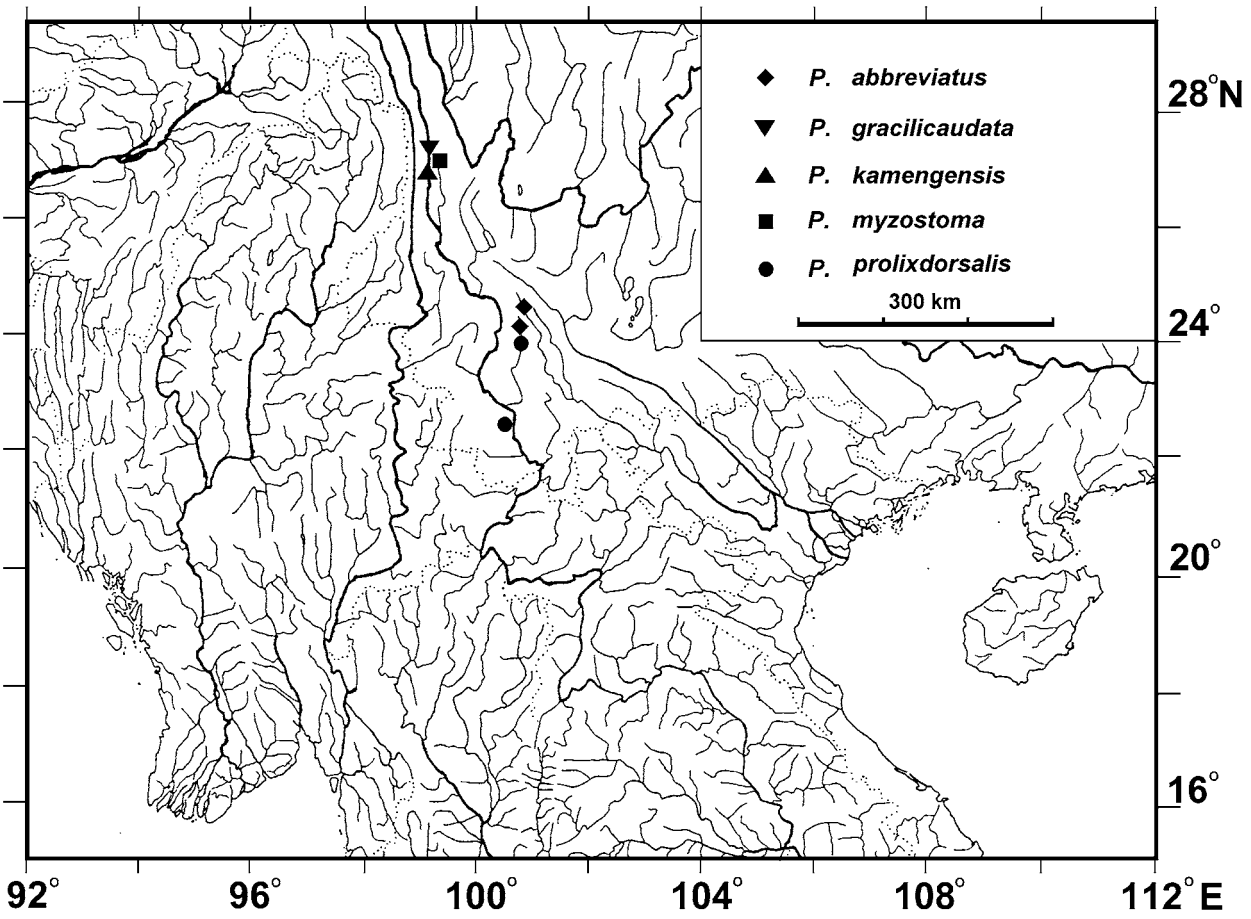

FIGURE 4. Map showing distributions of species of *Pareuchiloglanis* in the Lancangjiang (upper Mekong River) and Honghe (Red River or Song Hong) drainages.

TABLE 2. Counts and proportional measurements of *Pareuchiloglanis abbreviatus* and *P. kamengensis* (italic and bold indicate a diagnostic difference between species).

	P. abbreviatus			
Locality	Jingdong: Mona			Zhenyuan: Donggualin
Number of specimens	3			1
Dorsal-fin rays	i-5			i-5
Pelvic-fin rays	i-5			i-5
Pectoral-fin rays	i-13-15			i-17
Anal-fin rays	ii-3			ii-3
Branched caudal rays	6+7			6+7
in% standard length	mean	range	S.D.	range
Predorsal length	27.1	26.1–27.8	0.91	41.5
Length of dorsal-fin base	9.5	9.2–10.0	0.46	10.4
Body depth	13.2	12.5–14.1	0.79	12.0
Head length	27.2	25.73–28.0	1.28	27.7
Maximum head width	26.9	26.8–27.2	0.26	24.0
Caudal peduncle length	23.9	22.4–26.2	2.02	25.0
Caudal peduncle depth	5.6	***4.8–6.6***	0.94	5.1
Length of dorsal base to adipose	14.0	***12.2–16.3***	2.08	12.8
Length of pre-adipose to snout	62.1	60.0–63.5	1.92	62.6
Dorsal-fin length	20.3	19.4–21.9	1.40	19.8
Pectoral-fin length	29.2	28.7–29.6	0.49	25.0
Pelvic-fin length	20.5	19.7–21.8	1.10	18.5
Anal-fin length	15.4	14.5–16.5	1.02	14.7
Length of anal-fin base	5.9	4.5–7.0	1.32	6.3
Caudal-fin length	15.8	15.3–16.5	0.67	15.2
Length of adipose-fin base	33.0	29.5–38.5	4.82	30.1
in% head length				
Snout length	51.1	49.1–52.9	1.90	50.8
Eye diameter	9.1	7.3–10.4	1.64	7.1
Interorbital width	27.2	26.2–29.1	1.63	26.4
in% Pt-Pl length				
Length of pectoral fin	101.3	***97.1–109.1***	6.77	101.7
in% Pl-A length				
Length of pelvic fin	73.4	***70.8–74.7***	2.22	84.5
in% length of caudal peduncle				
Depth of caudal peduncle	23.2	***21.6–25.3***	1.91	20.4

continued.

	P. kamengensis	
Locality	Lanping: Yingpan	Lanping: Tongdian
Number of specimens	30	2
Dorsal-fin rays	i-5	i-5
Pelvic-fin rays	i-5	i-5

Pectoral-fin rays	i-14-16			i-15		
Anal-fin rays	ii-3-4			ii-3-4		
Branched caudal rays	7+8			7+8		
in% standard length	mean	range	S.D.	mean	range	S.D.
Predorsal length	33.0	29.5–35.8	1.78	31.9	31.6–32.1	0.35
Length of dorsal-fin base	8.7	6.9–13.9	1.35	9.1	8.4–9.8	0.99
Body depth	11.2	8.5–13.5	1.24	13.3	13.2–13.4	0.09
Head length	23.2	19.9–27.0	1.61	22.7	22.7–22.8	0.11
Maximum head width	22.0	18.9–23.7	1.29	19.7	19.2–20.1	0.69
Caudal peduncle length	18.2	9.5–20.4	2.04	15.5	13.8–17.3	2.45
Caudal peduncle depth	7.5	***6.5–8.9***	0.55	7.6	***7.3–7.8***	0.39
Length of dorsal base to adipose	24.4	***20.2–30.3***	2.08	22.0	***21.4–22.6***	0.83
Length of pre-adipose to snout	64.9	57.3–70.6	3.89	60.4	60.0–60.8	0.62
Dorsal-fin length	17.2	10.5–19.6	1.59	15.9	15.5–16.3	0.58
Pectoral-fin length	26.7	23.2–30.0	1.50	23.3	23.2-23.4	0.5
Pelvic-fin length	21.6	19.5–24.2	0.98	18.9	18.6-19.3	0.49
Anal-fin length	13.3	11.6–16.1	1.01	11.8	11.2–12.4	0.89
Length of anal-fin base	6.5	4.6–8.9	0.76	5.9	5.26–6.53	0.90
Caudal-fin length	16.4	12.2–19.9	2.24	12.9	12.1–13.8	1.19
Length of adipose-fin base	28.1	25.3–33.6	2.07	29.5	29.1–29.9	0.58
in% head length						
Snout length	51.7	46.7–62.5	2.91	57.4	56.8–58.0	0.89
Eye diameter	6.4	4.4–8.3	1.20	5.3	4.9–5.7	0.54
Interorbital width	28.1	20.2–32.4	3.28	23.1	22.5–23.7	0.86
in% Pt-Pl length						
Length of pectoral fin	107.8	***98.1–120.9***	5.17	102.3	***100.4–104.2***	2.65
in% Pl-A length						
Length of pelvic fin	59.9	***53.1–67.1***	3.40	53.1	***52.3–53.9***	1.12
in% length of caudal peduncle						
Depth of caudal peduncle	41.0	***35.6–53.5***	4.30	49.5	***42.2–56.7***	10.30

***Pareuchiloglanis gracilicaudata* (Wu & Chen)**
(Fig. 5)

Euchiloglanis gracilicaudata Wu & Chen, 1979: 294–296 (Nangqian, Qinghai); Wu *et al.*, 1981: 77.
Pareuchiloglanis gracilicaudata: Chu, 1981: 27; Chu, 1986: 41. Chu *et al*., 1990: 205 (Deqin and Weixi, Yunnan); Wu & Wu, 1992: 551–552; Chen, 1998: 309-310; Chu & Mo 1999: 169 (Nangqian, Qinghai; Deqin, Yunnan).

Material examined. All examined specimens are from the upper Lancangjiang, Yunnan, China. SWFC 9910098 (1; 166 mm SL), Yingpan, Lanping County. SWFC, 0004088-0004092 (5; 96–98 mm SL), Foshan, Deqin County. SWFC 0004051-0004059 (9; 91–125 mm SL), Kangpu, Weixi County. SWFC 0004065-0004077 (13; 84–116 mm SL), Yanwa, Weixi County.

Diagnosis. Characters distinguishing *Pareuchiloglanis gracilicaudata* from *P. abbreviatus, P. kamengensis, P. myzostoma* and *P. prolixdorsalis* are summarized in Table 1. Morphometric and meristic data are in

Table 3. A species of *Pareuchiloglanis* with the following unique combination of characters: adipose-fin base not confluent with caudal fin (vs. confluent); premaxillary tooth patches appear joined (vs. separate); lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (vs. not connected, with sulcus); branched caudal-fin rays 7 upper + 8 lower (vs. 6+7); dorsal fin i-5-6 (vs. i-7); anal fin ii-3-4 (vs. ii-8); distance between pelvic-fin origin to anal-fin origin shorter than distance between pelvic-fin origin to mouth (vs. equal); pectoral fin not reaching pelvic-fin origin (vs. reaching or extending beyond); pelvic fin reaching anus (vs. not reaching); origin of pelvic fin opposite end of dorsal-fin base (vs. posterior to end of dorsal-fin base); anus midway between anal-fin origin and posterior end of pelvic-fin base (vs. nearer to posterior end of pelvic-fin base or nearer to anal-fin origin); anal-fin origin midway between posterior end of pelvic-fin base and caudal-fin base (vs. nearer to posterior end of pelvic-fin base or caudal-fin base); snout length 58.3–81.3% HL; caudal peduncle depth 3.5–6.0% SL.

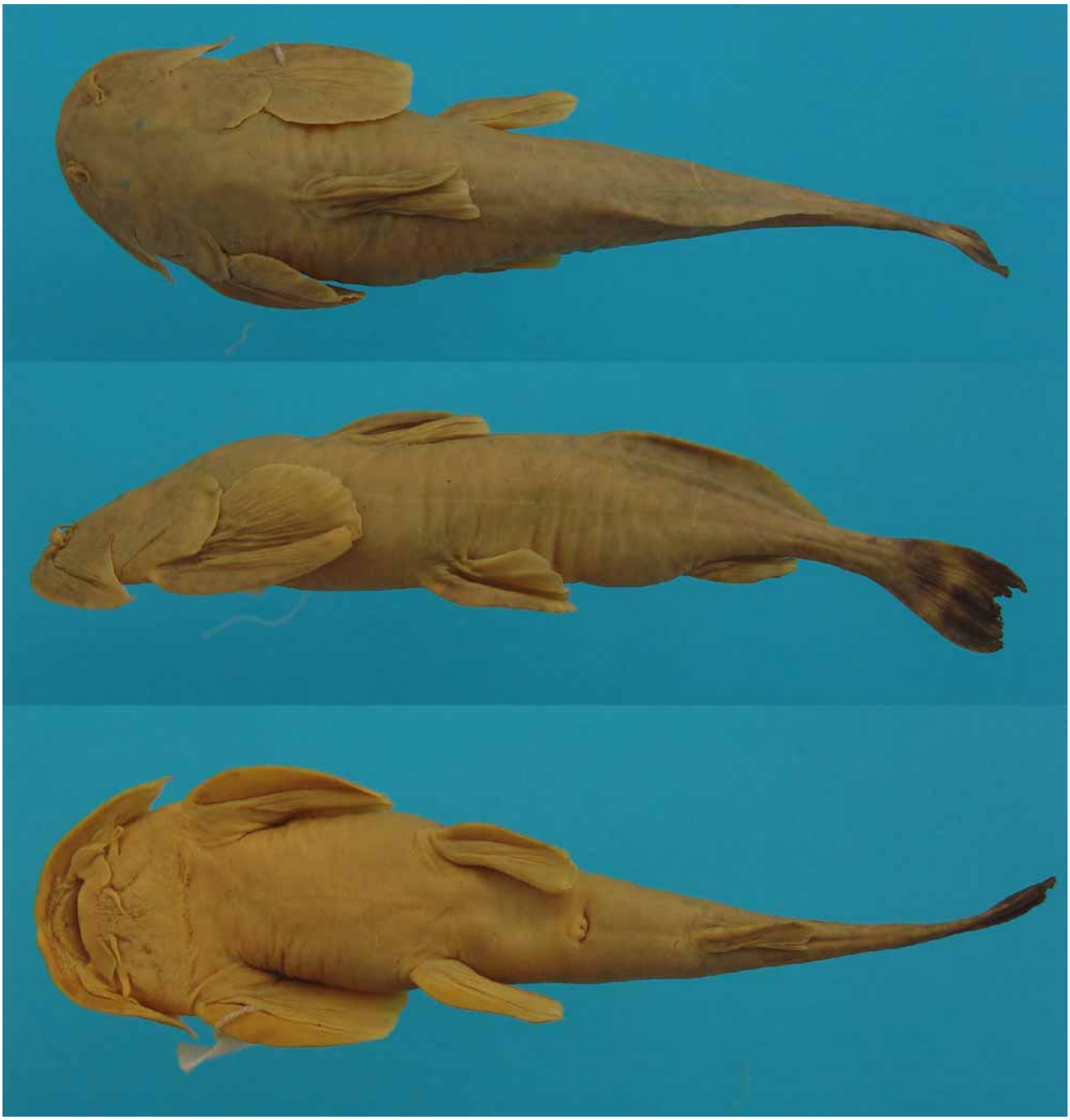

FIGURE 5. *Pareuchiloglanis gracilicaudata*, SWFC 0004051, 115 mm SL; Kangpu, Weixi county, Yunnan province, China. Dorsal, lateral and ventral views.

TABLE 3. Counts and proportional measurements of *Pareuchiloglanis gracilicaudata*, *P. myzostoma* and *P. prolixdorsalis* (italic and bold indicate a diagnostic difference between species).

	P. gracilicaudata			*P. myzostoma*			
Locality	Lanping: Yingpan; Deqin: Foshan; Weixi: Kangpu, Yanwa			Lanping: Lamahe (syntype)			Lanping: Yingpan
Number of specimens	28			10			1
Dorsal-fin rays	i-5			i-5-6			i-5
Pelvic-fin rays	i-5			i-5			i-5
Pectoral-fin rays	i-14-16			i-14-15			i-14
Anal-fin rays	ii-3-4			ii-4			ii-4
Branched caudal rays	7+8			7+8			7+8
in% standard length	mean	range	S.D.	mean	range	S.D.	range
Predorsal length	35.8	33.3–39.2	1.66	36.4	34.3–38.4	1.51	36.0
Length of dorsal-fin base	12.5	10.8–14.3	0.83	10.8	9.2–12.7	1.06	9.1
Body depth	14.4	11.5–17.6	1.56	10.8	9.6–13.6	1.34	13.1
Head length	21.9	17.8–26.4	2.50	27.3	26.3–28.6	0.77	22.6
Maximum head width	24.1	21.0–28.4	1.48	24.2	22.1–26.3	1.30	23.7
Caudal peduncle length	20.6	18.6–22.8	1.16	18.3	17.0–19.3	0.83	17.6
Caudal peduncle depth	4.7	3.5–6.0	0.60	5.3	5.0–5.9	0.27	5.3
Length of dorsal base to adipose	18.3	13.9–22.0	2.07	14.5	10.7–26.2	4.44	14.4
Length of pre-adipose to snout	62.9	60.0–66.7	2.10	60.3	57.9–63.0	1.52	59.9
Dorsal-fin length	19.3	17.7–20.8	0.87	17.7	15.6–19.5	1.18	18.1
Pectoral-fin length	23.5	21.5–27.1	1.08	25.4	24.3–27.5	0.87	25.1
Pelvic-fin length	18.1	15.6–20.0	1.07	17.9	16.2–19.1	0.90	19.5
Anal-fin length	13.3	9.9–17.2	1.52	13.3	12.1–14.8	0.84	13.9
Length of anal-fin base	6.3	4.1–7.8	0.72	6.7	5.6–7.6	0.72	6.4
Caudal-fin length	14.8	13.1–16.8	0.92	17.3	13.9–19.7	2.02	16.8
Length of adipose-fin base	28.7	20.5–34.4	2.9	31.1	28.2–33.6	1.50	32.4
i**n% head length**							
Snout length	70.3	58.3–81.3	7.39	48.9	47.2–51.8	1.68	52.0
Eye diameter	8.4	5.6–12.4	1.82	6.7	5.7–7.2	0.50	6.4
Interorbital width	28.5	21.2–35.3	4.02	23.6	21.4–25.2	1.24	26.6
in% Pt-Pl length							
Length of pectoral fin	85.7	72.6–105.7	8.13	90.8	83.2–100.0	6.58	78.4
in% Pl-A length							
Length of pelvic fin	59.7	51.4–69.7	5.37	63.9	55.4–72.5	5.21	55.3
in% length of caudal peduncle							
Depth of caudal peduncle	22.7	16.6–30.1	3.06	29.2	25.4–31.0	1.72	30.3

continued.

	P. prolixdorsalis	
Locality	Jinghong: Xiaonuoyou	Zhenyuan: Donggualin
Number of specimens	5	1
Dorsal-fin rays	i-5-6	i-5

Pelvic-fin rays	i-5			i-5	
Pectoral-fin rays	i-16-17			i-15	
Anal-fin rays	ii-4			ii-4	
Branched caudal rays	6+7			6+7	
in% standard length	mean	range	S.D.		range
Predorsal length	32.0	30.3–33.6	1.34		38.7
Length of dorsal-fin base	12.4	11.2–13.7	1.06		9.8
Body depth	12.7	11.1–14.1	1.40		11.1
Head length	20.7	19.3–21.6	1.01		26.1
Maximum head width	19.3	16.3–20.4	1.71		22.8
Caudal peduncle length	20.5	18.2–22.2	1.48		20.6
Caudal peduncle depth	5.4	5.0–5.6	0.23		4.5
Length of dorsal base to adipose	19.8	18.6–21.7	1.29		17.0
Length of pre-adipose to snout	61.4	60.1–63.7	1.51		63.3
Dorsal-fin length	17.8	16.8–18.6	0.73		18.6
Pectoral-fin length	21.0	20.1–21.8	0.75		24.3
Pelvic-fin length	15.1	14.5–15.8	0.60		15.2
Anal-fin length	13.0	11.8–14.0	0.95		13.8
Length of anal-fin base	7.7	6.4–8.8	0.90		7.1
Caudal-fin length	14.7	13.5–15.3	0.75		16.0
Length of adipose-fin base	30.5	29.6–31.8	0.87		28.4
in% head length					
Snout length	58.1	51.9–64.3	4.95		50.9
Eye diameter	8.3	6.8–9.5	1.05		9.5
Interorbital width	27.5	24.7–30.7	2.73		25.0
in% Pt-Pl length					
Length of pectoral fin	83.6	79.2–87.6	3.72		93.0
in% Pl-A length					
Length of pelvic fin	44.8	42.1–46.7	1.83		48.3
in% length of caudal peduncle					
Depth of caudal peduncle	26.5	23.6–30.7	2.70		22.0

Pareuchiloglanis gracilicaudata is distinguished from *P. gongshanensis*, *P. feae, P. kamengensis* and *P. macropterus* by a combination of the following characters: premaxillary tooth patches appear joined with median indentation (vs. separate) (Fig. 2A); lower lip connected to base of maxillary barbel by skin flap, and without sulcus between them (vs. not connected, with sulcus) (Fig. 3A). It differs from *P. abbreviatus* and *P. anteanalis* by its shorter pectoral fin, pectoral fin not reaching origin of pelvic fin (vs. reaching), and differs from *P. feae*, *P. poilanei, P. sichuanensis* and *P. tianquanensis* by its adipose-fin base not being confluent with caudal fin (vs. confluent). *Pareuchiloglanis gracilcaudata* differs from *P. abbreviatus* and *P. prolixdorsalis* by having 7+8 branched caudal-fin rays (vs. 6+7). It differs from *P. songmaensis* by having fewer fin rays, dorsal fin i-5, anal fin ii-3-4 (vs. i-7, ii-8). It differs from *P. longicauda* and *P. sinensis* by having origin of pelvic fins opposite end of dorsal-fin base (vs. posterior to end of dorsal-fin base). It differs from *P. abbreviatus, P. anteanalis, P. feae, P. longicauda, P. nebulifer* and *P. rhabdurus* by having origin of anus midway between posterior end of pelvic-fin base and anal-fin origin (vs. nearer to anal-fin origin or posterior end of pelvic-fin base). It differs from *P. kamengensis, P. macrotrema, P. nebulifer, P. rhabdurus* and *P. robusta* by having origin of

anal fin midway between posterior end of pelvic-fin base and caudal-fin base (vs. nearer posterior of pelvic-fin base or caudal-fin base). It differs from *P. myzostoma* by pelvic fin reaching anus (vs. not reaching) and longer snout, 58.3–81.3% HL (vs. 47.2–51.8% SL). *Pareuchiloglanis gracilicaudata* differs from *P. songdaensis* by having distance between pelvic-fin origin to anal-fin origin shorter than distance between pelvic-fin origin to mouth (vs. equal) and more slender caudal peduncle.

Distribution. Known only from the upper Lancangjiang [Mekong] drainage (Fig. 4).

Pareuchiloglanis kamengensis
(Fig. 6)

Euchiloglanis kamengensis: Chu, 1979: 77 (Lancangjiang drainage); Wu *et al.*, 1981: 77 (Lancangjiang drainage).
Pareuchiloglanis kamengensis: Chu, 1986: 41 (Lancangjiang drainage); Chu *et al*., 1990: 205 (Lancangjiang drainage); Wu & Wu, 1992: 552-554 (Lancangjiang drainage); Chen, 1998: 305-306 (Lancangjiang drainage); Chu & Mo 1999: 169 (Lancangjiang drainage).

Material examined. All examined specimens are from the upper Lancangjiang, Yunnan, China. SWFC 0411001-0411018 (18; 69.5-157.1 mm SL), Yingpan, Lanping County. SWFC 0409001-0409012 (12; 105.0-155.6 mm SL), Yingpan, Lanping County. SWFC 0304001-0304002 (2; 154.5-177.4 mm SL), Tongdianhe, Lanping County.

Diagnosis. Characters distinguishing *Pareuchiloglanis kamengensis* from *P. abbreviatus, P. gracilicaudata P. myzostoma* and *P. prolixdorsalis* are summarized in Table 1. Morphometric and meristic data are in Table 2. A species of *Pareuchiloglanis* with the following unique combination of characters: adipose-fin base not confluent with caudal fin (vs. confluent); premaxillary tooth patches appear separate (vs. joined with small median indention); lower lip not connected to base of maxillary barbel by skin flap, with sulcus between them (vs. connected, and without sulcus); 7 upper + 8 lower branched caudal-fin rays (vs. 6+7); dorsal fin i-5 (vs. i-7); anal fin ii-3-4 (vs. ii-8); distance between pelvic-fin origin to anal-fin origin shorter than distance between pelvic-fin origin to mouth (vs. equal); pectoral fin extending beyond origin of pelvic fin (vs. not reaching); origin of pelvic fins opposite end of dorsal-fin base (vs. posterior to end of dorsal-fin base); anus nearer to anal-fin origin than to end of pelvic-fin base (vs. nearer to posterior end of pelvic-fin base); anal-fin origin nearer to caudal-fin base than to posterior end of pelvic-fin base (vs. nearer to end of pelvic-fin base).

Pareuchiloglanis kamengensis is distinguished from *P. abbreviatus, P. anteanalis, P. gracilicaudata, P. myzostoma, P. nebulifer, P. robusta, P. macrotrema, P. prolixdorsalis, P. sinensis, P. sichuanensis, P. tianquanensis, P. rhabdurus, P. poilanei, P. longicauda* and *P. nebulifer* by the following characters: two isolated premaxillary tooth patches (vs. premaxillary tooth patches appearing joined with a median indentation) (Fig. 2B); lower lip not connected to base of maxillary barbel by skin flap, with sulcus between them (vs. connected, without sulcus) (Fig. 3B). It differs from *P. gracilicaudata, P. gongshanensis, P. longicauda, P. macrotrema, P. myzostoma, P. robusta* and *P. sinensis* by having longer pectoral fin, extending beyond origin of pelvic fin (vs. not reaching). It differs from *P. feae, P. poilanei, P. sichuanensis* and *P. tianquanensis* by adipose-fin base not confluent with caudal fin (vs. confluent). It differs from *P. abbreviatus* and *P. prolixdorsalis* by having 7+8 branched caudal-fin rays (vs. 6+7). It differs from *P. songmaensis* by having fewer fin rays, dorsal fin i-5, anal fin ii-3-4 (vs. i-7, ii-8). It differs from *P. longicauda* and *P. sinensis* by having origin of pelvic fin opposite end of dorsal-fin base (vs. posterior to end of dorsal-fin base), and differs from *P. songdaensis* by having distance between pelvic-fin origin to anal-fin origin shorter than distance between pelvic-fin origin to mouth (vs. equal). It differs from *P. abbreviatus, P. anteanalis, P. feae, P. longicauda, P. nebulifer, P. prolixdorsalis* and *P. rhabdurus* by having anus nearer to anal-fin origin (vs. nearer to posterior end of pelvic-fin base) and differs from *P. rhabdurus* by its deeper caudal peduncle, 6.5-8.9% SL (vs. 4.2% SL).

Distribution. Known from the upper Lancangjiang [Mekong] and Brahmaputra drainages (Fig. 4).

Remarks. Ng (2004) postulated that *P. kamengensis* recorded in the Lancangjiang by Chu & Mo (1999) could be *P. macropterus* Ng, and that *P. kamengensis* is distributed only in Brahmaputra. However, the specimens of *Pareuchiloglanis* from the Lancangjiang are distinguished from *P. macropterus* by having a pectoral fin that reaches the origin of the pelvic fin (vs. not reaching), and no pale patches on the body (vs. presence). Based on the taxonomic study results of Chu & Mo (1999), specimens of *Pareuchiloglanis* from Lancangjiang are most similar to those of *P. kamengensis.* In the absence of sufficient evidence, the authors provisionally identify these specimens as *P. kamengensis*.

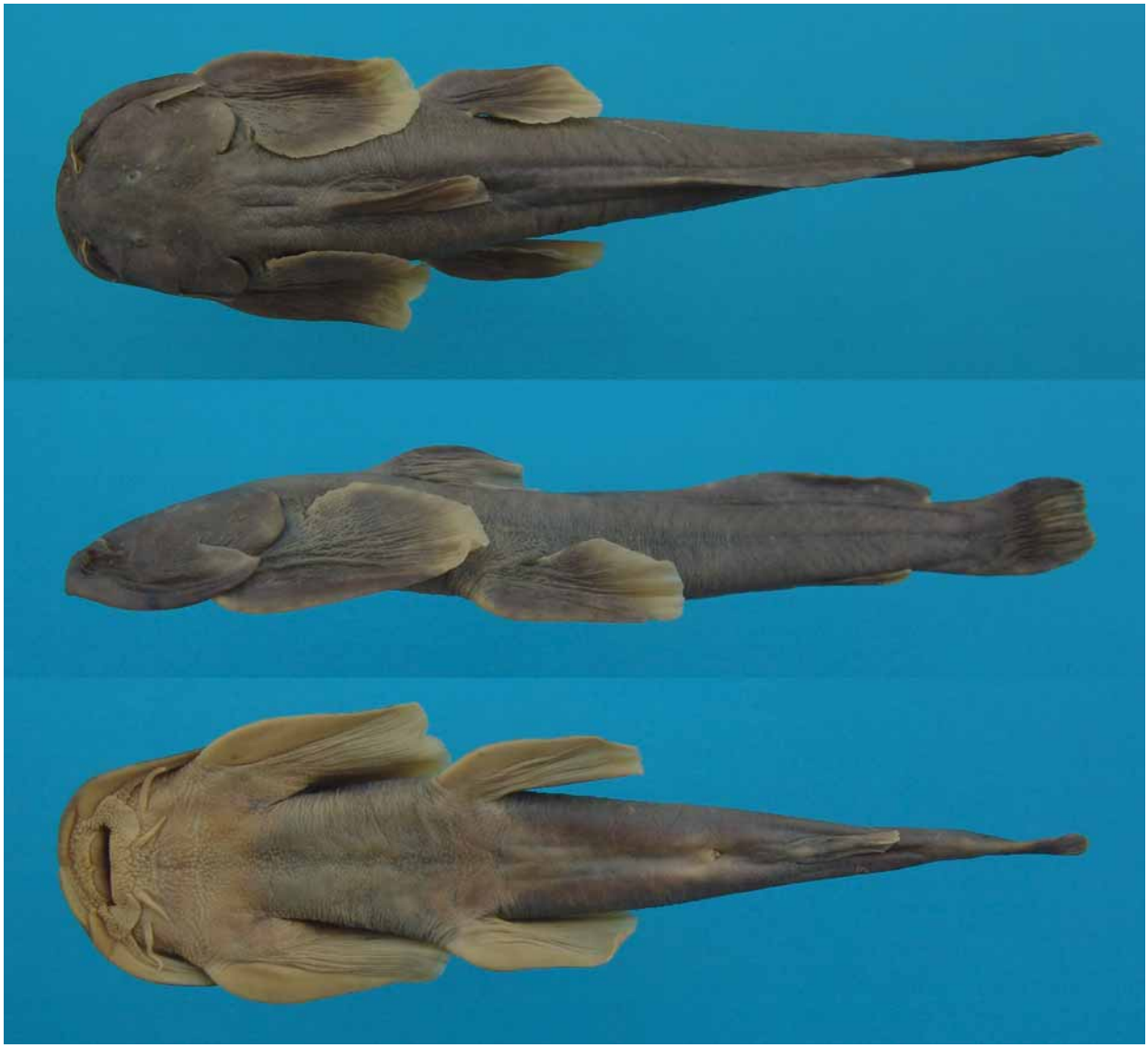

FIGURE 6. *Pareuchiloglanis kamengensis*, SWFC 0411001, 149 mm SL; Yingpan, Lanping county, Yunnan province, China. Dorsal, lateral and ventral views.

***Pareuchiloglanis myzostoma* (Norman)**
(Fig. 7)

Euchiloglanis myzostoma Norman, 1923: 562-563 (Yunnan); Hora & Silas: 1951, 16 (Lancangjiang drainage); Hora & Silas, 1952: 314-318 (Lancangjiang drainage).
Euchiloglanis feae myzostoma: Chu, 1979: 77 (Lancangjiang drainage).
Pareuchiloglanis myzostoma: Chu, 1981: 27; Chu, 1986: 41 (Lancangjiang drainage); Chu *et al.*, 1990: 210 (Lanping, Yunnan); Chen, 1998: 310-311; Chu & Mo 1999: 170 (Lanping, Yunnan).

Material examined. BMNH 1923.2.21.40–49 (10 syntypes; 61–107.9mm SL), Lanping County, Yunnan Province. SWFC 0209001 (1; 115.1mm SL), Yingpan, Lanping County, Yunnan Province.

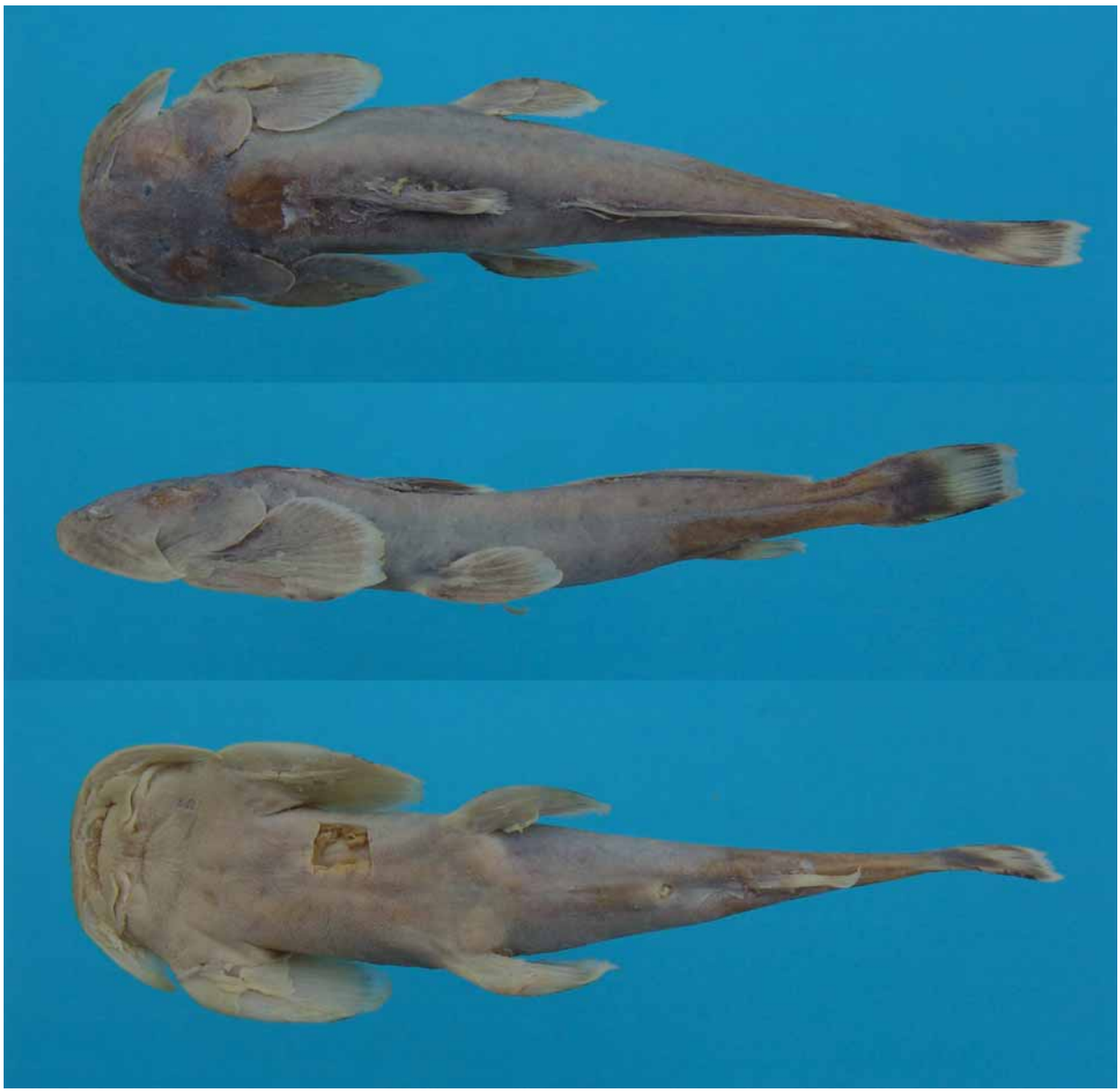

FIGURE 7. *Pareuchiloglanis myzostoma*, SWFC 0209001, 115.1 mm SL; Yingpan, Lanping county, Yunnan province, China. Dorsal, lateral and ventral views.

Diagnosis. Characters distinguishing *Pareuchiloglanis myzostoma* from *P. abbreviatus*, *P. gracilicaudata*, *P. kamengensis* and *P. prolixdorsalis* are summarized in Table 1. Morphometric and meristic data are in Table 3. A species of *Pareuchiloglanis* with the following unique combination of characters: adipose-fin base not confluent with caudal fin (vs. confluent premaxillary tooth patches appear joined (vs. separate); lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (vs. not connected, with sulcus); gill opening not extending ventrally beyond third pectoral-fin ray (vs. reaching base of first pectoral ray); 7 upper + 8 lower branched caudal-fin rays (vs. 6+7); dorsal fin i-5-6 (vs. i-7); anal fin ii-4 (vs. ii-8); distance between pelvic-fin origin to anal-fin origin shorter than distance between pelvic-fin origin to mouth (vs. equal); pectoral fin not reaching pelvic-fin origin (vs. reaching or beyond); pelvic fin not reaching anus (vs. reaching); origin of pelvic fin opposite end of dorsal-fin base (vs. behind dorsal-fin base); anus nearer anal-fin origin than posterior end of pelvic-fin base (vs. nearer to posterior end of pelvic-fin base); origin of anal fin

nearer to caudal-fin base than to posterior end of pelvic-fin base (vs. nearer to posterior end of pelvic-fin base); snout length 47.2– 52.0% HL; head length 22.6–28.6% SL; caudal peduncle depth 5.3–5.9% SL.

Pareuchiloglanis myzostoma is distinguished from *P. gongshanensis*, *P. feae*, *P. kamengensis* and *P. macropterus* by the following characters: premaxillary tooth patches appear joined with median indentation (vs. separate) (Fig. 2A); lower lip connected to base of maxillary barbel by skin flap, and without sulcus between them (vs. not connected, with sulcus) (Fig. 3A). It differs from *P. abbreviatus* and *P. anteanalis* by its shorter pectoral fin, pectoral fin not reaching origin of pelvic fin (vs. reaching). It differs from *P. feae*, *P. poilanei*, *P. sichuanensis* and *P. tianquanensis* by its adipose-fin base not being confluent with caudal fin (vs. confluent), and differs from *P. abbreviatus* and *P. prolixdorsalis* by having 7+8 branched caudal-fin rays (vs. 6+7). It differs from *P. songmaensis* by the following characters: less fin rays, dorsal fin i-5-6, anal fin ii-4 (vs. i-7, ii-8); distance between pelvic-fin origin to anal-fin origin shorter than that to mouth (vs. equal); a longer head, head length 22.6–28.6% SL (vs. 21.5% SL). It differs from *P. longicauda* and *P. sinensis* by having origin of pelvic fin opposite to end of dorsal-fin base (vs. posterior to end of dorsal-fin base). *Pareuchiloglanis myzostoma* differs from *P. gracilicaudata* by having its pelvic fin not reaching anus (vs. reaching) and its shorter snout, 47.2– 52.0% HL (vs. 58.3–81.3% HL). It differs from *P. abbreviatus*, *P. anteanalis*, *P. feae*, *P. longicauda*, *P. nebulifer*, *P. prolixdorsalis* and *P. rhabdurus* by having anus nearer to origin of anal fin (vs. nearer to posterior of pelvic-fin base). It differs from *P. rhabdurus* and *P. robusta* by having the origin of anal fin nearer to caudal-fin base (vs. nearer to posterior of pelvic-fin base). *Pareuchiloglanis myzostoma* differs from *P. longicauda* by having gill openings extending ventrally beyond third pectoral-fin ray (vs. reaching first pectoral-fin ray base) and from *P. rhabdurus* by its deeper caudal peduncle, depth 5.3–5.9% SL (vs. 4.2% SL).

Distribution. Known only from the upper Lancangjiang [Mekong] drainage (Fig. 4).

Remarks. The syntypes of *Pareuchiloglanis myzostoma* were only cursorily recorded to be collected from Yunnan (Norman 1923). After reviewing the exploration route of Gregory (Gregory & Gregory 1923) in China and the resulting revision of glyptosternine catfish by Hora & Silas (1951), Chu & Mo (1999) examined the exploration route of Gregory and took a field survey. Chu considered that Loma Ho recorded by Hora & Silas (1951) was types locality of *Pareuchiloglanis myzostoma*, and Loma Ho must be the Lamahe (now called Jiduhe) in Lanping county, Yunnan (Chu & Mo 1999). The counts and other proportional measurements of one topotype of *P. myzostoma* are consisted with 10 syntypes preserved in British Museum of Natural History (Table 3).

***Pareuchiloglanis prolixdorsalis* sp. nov.**
(Fig. 8)

Holotype. SWFC 0105002, 161 mm TL, 146 mm SL; Xiaonuoyou (22°14’04”N 100°36’75”E), Nabanhe (small branch of Lancangjiang), Jinghong County, Yunnan Province, L.-X. Hang, 2 May 2001.

Paratypes. SWFC 0105001, 0105003-0105005 (4; 135–170 mm TL, 120–148 mm SL), same data as holotype. SWFC 0303249 (1; 92.8 mm TL, 80.4 mm SL), Donggualin (24°18.43’N100°46.61’E), Xiaobahe (upstream of Weiyuanjiang, a branch of Lancangjiang), Zhenyuan County, Yunnan Province, W. Zhou & Q. Wang, 29 Sept. 2003.

Diagnosis. Characters distinguishing *Pareuchiloglanis prolixdorsalis* from *P. abbreviatus*, *P. gracilicaudata*, *P. kamengensis* and *P. myzostoma* are summarized in Table 1. A species of *Pareuchiloglanis* with the following unique combination of characters: adipose-fin base not confluent with caudal fin (vs. confluent); premaxillary tooth patches appear joined (vs. separate); lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (vs. not connected, with sulcus); 6 upper + 7 lower branched caudal-fin rays (vs. 7+8); dorsal fin i-5-6 (vs. i-7); anal fin ii-4 (vs. ii-8); distance between pelvic-fin origin to anal-fin origin longer than distance between pelvic-fin origin to mouth (vs. equal); pectoral fins not reaching origin of

pelvic fin (vs. reaching); origin of pelvic fins opposite to end of dorsal-fin base (vs. posterior to end of dorsal-fin base); anus nearer to posterior end of pelvic-fin base than to anal-fin origin (vs. nearer to anal-fin origin); long interdorsal, tip of dorsal fin not reaching origin of adipose fin when depressed (vs. reaching); caudal peduncle length 18.2–22.2% SL; caudal peduncle depth 4.5–5.6% SL.

FIGURE 8. *Pareuchiloglanis prolixdorsalis*, SWFC 0105002, holotype, 146.0 mm SL; Xiaonuoyou, Jinghong County, Yunnan province, China. Dorsal, lateral and ventral views.

Pareuchiloglanis prolixdorsalis is distinguished from *P. gongshanensis*, *P. feae*, *P. kamengensis* and *P. macropterus* by the following characters: premaxillary tooth patches appear joined with a median indentation (vs. separate) (Fig. 2A); lower lip connected to base of maxillary barbel by skin flap, and without sulcus between them (vs. not connected, with sulcus) (Fig. 3A). It differs from *P. abbreviatus* and *P. anteanalis* by its shorter pectoral fin, pectoral fin not reaching origin of pelvic fin (vs. reaching). It differs from *P. feae*, *P. poilanei*, *P. sichuanensis* and *P. tianquanensis* by adipose-fin base not being confluent with caudal fin (vs. confluent). It differs from *P. abbreviatus* by having tip of dorsal fin not reaching origin of adipose fin when depressed (vs. reaching). It differs from *P. gracilicaudata*, *P. myzostoma*, *P. nebulifer* and *P. robusta* by having 6+7 branched caudal-fin rays (vs. 7+8). *Pareuchiloglanis prolixdorsalis* differs from *P. songdaensis* by having distance between pelvic-fin origin to anal-fin origin longer than distance between pelvic-fin origin to mouth (vs. equal). It differs from *P. songmaensis* by having fewer fin rays, dorsal fin i-5-6, anal fin ii-4 (vs. i-7, ii-8).

Pareuchiloglanis prolixdorsalis differs from *P. sichuanensis* and *P. sinensis* by narrower caudal peduncle, depth 4.5–5.6% SL (vs. 7.8–11.4% SL). It differs from *P. rhabdurus* by its longer and deeper caudal peduncle, length 18.2–22.2% SL (vs. 17.6% SL) and depth 4.5–5.6% SL (vs. 4.2% SL). It further differs from *P. gongshanensis*, *P. kamengensis*, *P. macropterus* and *P. myzostoma* by having the origin of the anus nearer the posterior end of the pelvic-fin base (vs. nearer anal-fin origin).

Description. Morphometric and meristic data are in Table 3. Mouth wide, inferior, transverse. Anterior margin of premaxillary tooth patches exposed when mouth closed. Oral region with papillae. Oral teeth coniform, embedded in skin, only tips exposed, irregular rows. Premaxillary tooth patches broad, appear joined, with median indentation, sides not extending backwards (Fig. 2A). Gill opening extending from posttemporal region to base of second pectoral-fin element. Post-labial groove interrupted, ending at base of inner mandibular barbel. Lower lip connected to base of maxillary barbel by skin flap, without sulcus between them (Fig. 3A).

Head compressed, rostral margin rounded when viewed dorsally. Head and abdominal region moderately broad. Dorsal profile rising gradually from tip of snout to origin of dorsal fin, then sloping slowly ventrally to end of caudal peduncle. Oral region, anterior part of abdomen with dense papillae, density gradually decreasing posteriorly. Eye small, almost round, subcutaneous, dorsal. Eye closer to tip of snout than to dorsalmost extremity of gill opening. Barbels flattened, in four pairs. Nasal barbel with small flap of thin skin fringing posterior margin, reaching anterior orbital margin. Maxillary barbel with thin flap of skin fringing posterior margin, pointed tip, extending to or beyond pectoral-fin origin. Origin of inner mandibular barbel close to midline. Outer mandibular barbel origin posterolateral of inner mandibular barbel, reaching nearly to first pectoral-fin element.

Dorsal fin at point through anterior third of body; without spine, margin straight, extending beyond vertical through base of pelvic fin. Tip of dorsal fin not reaching origin of adipose fin when depressed. Adipose fin with long base, third of postdorsal distance, fin margin almost straight for entire length, adipose-fin base deeply incised posteriorly. Length of adipose-fin base equal to predorsal length. Origin of anal fin posterior, inserted nearer to caudal-fin base than to end of pelvic-fin base. Pectoral and pelvic fins enlarged, with broadly rounded margins, first element on each broadened, with regular striae on ventral surface. Pectoral fin not reaching origin of pelvic fin. Pelvic fin reaching anus. Anus located nearer to posterior end of pelvic-fin base than to anal-fin origin. Caudal fin truncate. Skin smooth. Lateral line complete and midlateral.

Colouration. Green yellow on dorsal surface, milk-white on ventral region. Light yellow spot on posttemporal area. Pair of yellow spots on dorsal, adipose, caudal fins. Pectoral and pelvic fins green-yellow with lighter colour around distal edge. Dorsal fin green-yellow with lighter medial band and distal edge. Caudal fin gray-black with small yellow patch in middle.

Distribution. Lower reaches of the Lancangjiang [Mekong] drainage (Fig. 4).

Etymology. From the Latin *prolixus*, meaning extended, and *dorsalis*, meaning dorsal. In reference to the longer distance from the end of the dorsal-fin base to the origin of the adipose-fin, distinguished from *P. abbreviat*us in the same river system.

Key to the species of *Pareuchiloglanis* in the Lancangjiang, China

1 Premaxillary tooth patches appear joined, with shallow median indentation (Fig. 2A); no sulcus between maxillary barbel and lower lip (Fig. 3A) 2

- Premaxillary tooth patches separate (Fig. 2B); sulcus present between maxillary barbel and lower lip (Fig. 3B) ..... Pareuchiloglanis kamengensis

2 Origin of anal fin posterior, inserted nearer to caudal-fin base than to end of pelvic-fin base; tip of dorsal fin not reaching origin of adipose fin when depressed; pectoral fin not reaching origin of pelvic fin; pelvic

fin not reaching or only reaching anus 3

- Origin of anal fin anterior, distance to caudal-fin base longer than to pelvic-fin origin; tip of dorsal fin reaching origin of adipose fin when depressed; pectoral fin extending beyond origin of pelvic fin; pelvic fin extending beyond anus ..... *Pareuchiloglanis abbreviatus*

3 Branched rays of caudal fin 7+8; anus midway between posterior end of pelvic-fin base and anal-fin origin or nearer to anal-fin origin 4

- Branched rays of caudal fin 6+7; anus nearer to posterior end of pelvic-fin base than to anal-fin origin ... . *Pareuchiloglanis prolixdorsalis*

4 Caudal peduncle slender, depth 16.6–30.1% in length; pelvic fin reaching anus; anus located midway between end of pelvic-fin base and anal-fin origin ..... *Pareuchiloglanis gracilicaudata*

- Caudal peduncle deeper, depth 30.3% in length; pelvic fin not reaching anus; anus nearer to anal-fin origin than to posterior end of pelvic-fin base ..... *Pareuchiloglanis myzostoma*

Discussion

The morphology of the premaxillary tooth patches is considered to be a chief character for identifying genera in the tribe Glyptosternina (Chu 1979, 1981; Thomson & Page 2006), and as a character in elucidating the phylogeny of Glyptosternina (He 1995b, 1996). Dissection of the skeleton shows that the premaxillary tooth band of *Pareuchiloglanis* is separated into two patches (He 1996). We divide the premaxillary tooth band of *Pareuchiloglanis* into two types. In one type the premaxillary tooth patches appear separate, medially divided by a deeper indentation. This type is characteristic of *P. kamengensis*, *P. feae*, *P. macropterus* and *P. gongshanensis*. This group is distributed in and to the west of the Lancangjiang (Fig. 4) and overlaps that of *Oreoglanis*, *Pseudexostoma* and *Exostoma* (Chu *et al*. 1990; Ng & Rainboth 2001; Ng 2004). In the other type, the premaxillary tooth patches appear to be joined with a shallow medial indentation. This type is characteristic of all other species of *Pareuchiloglanis*. This group is distributed in and to the east of the Lancangjiang (Thomson & Page 2006).

In the first group, the morphology of the premaxillary tooth patches is more similar to that of *Oreoglanis* species. These species of *Pareuchiloglanis* also have a sulcus between the maxillary barbel and the lower lip, and the lower lip is not connected to the base of the maxillary barbel. This characteristic is also similar to that of *Oreoglanis* species (Fig. 3). Based on morphology and geographic distribution, the authors consider *P. kamengensis*, *P. feae*, *P. macropterus* and *P. gongshanensis* to form a monophyletic group that may be a transitional group from *Pareuchiloglanis* to *Oreoglanis*. This group is distributed extensively in the Lancangjiang, Nujiang, Irrawaddy and Brahmaputra river systems, which implies that rivers in this area could have been historically connected with each other.

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