Record of a Cyprinid Fish *Xenocheilichthys loppei* from the Laotian and Vietnamese Mekong and Peninsular Thailand

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The cyprinid fish *Xenocheilichthys loppei* Durand, 1940, was described on the basis of five specimens taken from the Mekong River at Phnom Penh, Cambodia. This species seems to be rare since no additional record has been made to date.

Recent fish collection in the Mekong drainage by the junior author contained 10 specimens of *X. loppei* from Laos and southern Vietnam. We also obtained three live specimens collected in peninsular Thailand and shipped to an aquarium fish breeder in Tokyo. These materials revealed that *X. loppei*, although not abundant, has a rather wide range in continental Southeast Asia, and also enabled us to present a supplementary description, range for variation, life color, etc., on this little-known species and investigate its relationship and generic status.

Xenocheilicthys Smith, 1934

Type by original designation, *Xenocheilichthys gudgeri* Smith

Xenocheilichthys loppei Durand

Xenocheilichthys loppei Durand, 1940 : 8 (original description, type locality, Point of Chrui Changwar, Phnom Penh, Cambodia)

Material examined Laos: 7 specimens, 20.0～26.5 mm in standard length (SL), collected from Mekong River at Hatsalao, near Pakse, on July 12, 1970, by Y. Taki, catalogue No. IBRP 4289 (Institute for Breeding Research, Tokyo University of Agriculture). Vietnam: 3, 49.5～63.5mm SL, Bassac River (one of the two stems of the Mekong in its delta) at Chau Doc, town in the Mekong delta near the Cambodian border, July 25, 1974, by Y. Taki, IBRP 6296. Thailand: 3, 47.0～53.5 mm SL, Ban Pak Klong, town in the Malayan Peninsula about 200 km southwest of Bangkok, July, 1975, by a local aquarium fish collector, IBRP 6871.

Description In the following, the counts for

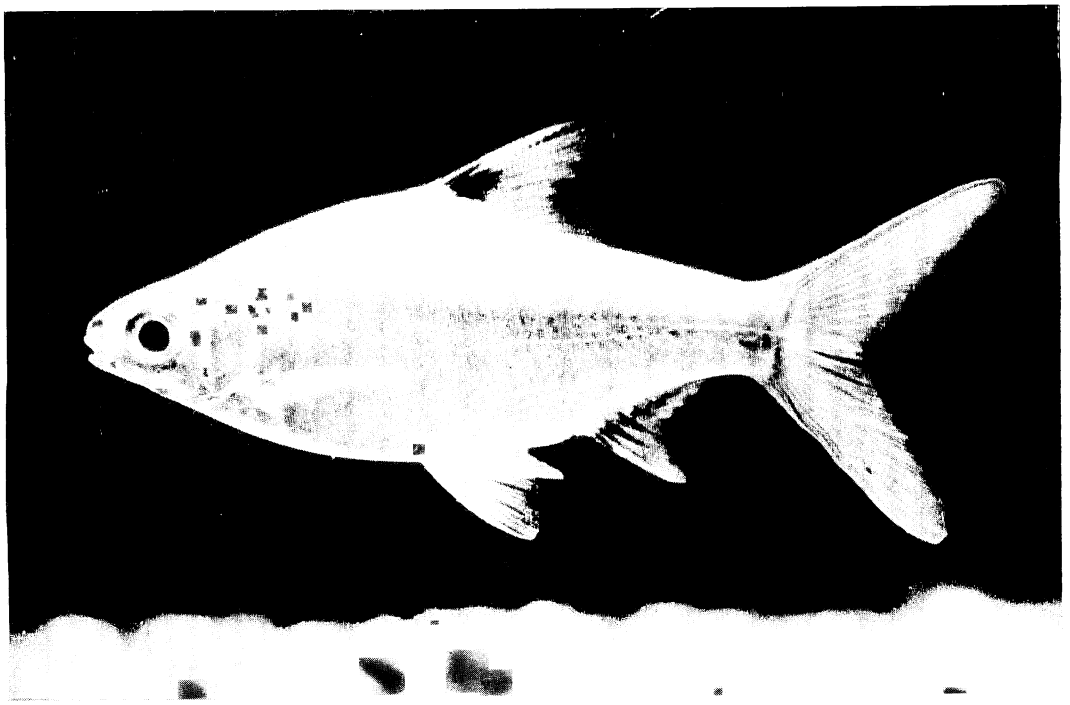

Fig. 1. A live specimen of *Xenocheilichthys loppei* from peninsular Thailand (47.0 mm SL, IBRP 6871).

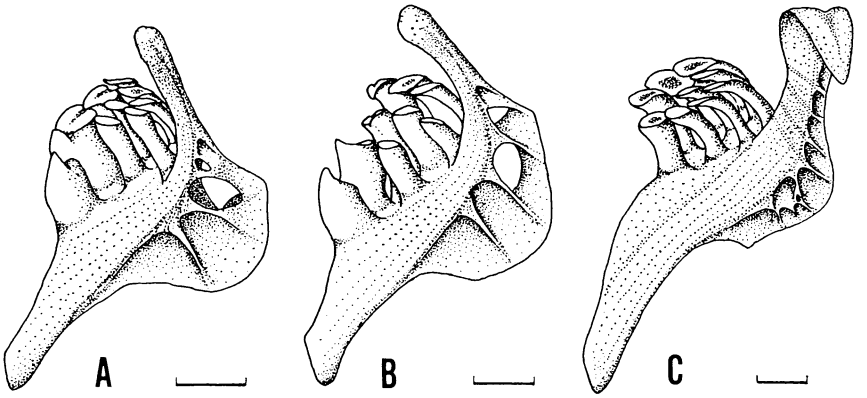

Fig. 2. Fronto-dorsal aspects of left pharyngeals and their teeth: A) *Xenocheilichthys loppei* (58.0 mm SL, IBRP 6296); B) *Xenocheilichthys gudgeri* (55.0 mm SL, IBRP 5776); C) *Amblyrhynchichthys truncatus* (42.0 mm SL, IBRP 6420). Scales indicating 1 mm.

gill-rakers and vertebrae are from 10 specimens (IBRP 4289 and 6296); those for scales from six specimens (IBRP 6296 and 6871); other counts from all specimens examined, 13 in number. Measurements and the observation of pharyngeals and their teeth are made on three specimens (IBRP 6296), unless otherwise stated. The coloration of live specimens is based on IBRP 6296 and 6871.

Counts: Dorsal rays iv/8; anal rays iii/6; total pectoral rays 14～15 (mean 14.9); total pelvic rays 9～10 (9.1); principal caudal rays 19. Total lateral line scales 33～34 (33.8); scales in transverse series above lateral line to dorsal origin 6, below lateral line to anal origin 4.5～5 (4.8), to pelvic origin 4; predorsal scales 9～10 (9.8); scales around caudal peduncle 16. Gill-rakers on upper limb 8～9 (8.5), on lower limb 23～25 (23.8), total 31～34 (32.2). Total vertebrae 33.

Measurements in hundredths of standard length: Body depth 37.4～40.2 (39.1); body width 17.2～17.3 (17.3); head length to fleshy rim of opercle 27.3～27.6 (27.5); head length at occiput 22.2～23.3 (22.8); caudal peduncle length 15.5～17.3 (16.7); caudal peduncle depth 14.1～14.7 (14.3); predorsal length 49.5～51.7 (50.8); preanal length 72.7～74.8 (73.9); prepelvic length 50.5～52.0 (51.4); last simple dorsal ray 26.0 (N=1); last simple anal ray 17.3～19.2 (18.2); pectoral fin length 21.3～22.2 (21.7); pelvic fin length 20.5～21.2 (20.8); caudal fin length from base of middle caudal ray to tip of upper lobe 38.6～39.7 (39.2). Measurements in hundredths of head length: Snout length 25.0～25.9 (25.6); orbit diameter 34.3～37.5 (36.3); postorbital length 44.4～48.6 (45.6); bony interorbital width 40.6～42.9 (41.4).

Snout short, with a rostral fold on front covering base of upper lip and a lateral fold on each side covering upper lip laterally. Mouth small, terminal to subinferior. Upper lip moderately thick. Lower jaw with a blunt postsymphyseal tubercle; lower lip thin, mesial portion devoid of postlabial groove. Barbels absent. Eyes large; adipose eyelid broad anteriorly and narrow posteriorly. Gill-rakers long, densely set. Pharyngeals broad; their pitted surfaces (terminology after Chu, 1935) with about five partitions, of which two perforated. Pharyngeal teeth triserial, 2·3·4–4·3·2, griding surfaces oblique, somewhat heart-shaped (Fig. 2A). Last simple dorsal ray strongly osseous, denticulated with 13 to 17 serratures. Last simple anal ray not osseous, entire. Origin of dorsal fin in advance of pelvic insertion. Lateral line complete, running in middle of caudal peduncle.

Coloration of live specimens: Body silvery, back somewhat dark with bluish or greyish tint. Upper edge of iris black. Dorsal fin with a jet black blotch at anterior end of its base extending on simple rays and anterior two or three branched rays; apical portion of last simple ray and distal margin of the fin blackish. Outer margin of simple pectoral ray black; other part of the fin hyaline. Pelvic and anal fins pale yellow.

Table 1. Comparison of counts and measurements between *X. loppei* and *X. gudgeri*. For *X. gudgeri*, counts for dorsal rays and lateral line scales are based on all lots of specimens, gill-rakers on IBRP 4164 and 5776, and measurements on IBRP 4587. For material of *X. loppei*, see the text. SL=standard length; HL=head length.

Character	*X. loppei*			*X. gudgeri*		
	Range	$\bar{x}$	N	Range	$\bar{x}$	N
Branched anal rays	6	6.0	13	5	5.0	91
Total lateral line scales	33~34	33.8	6	30~33	31.6	76
Gill-rakers on upper limb	8~9	8.5	10	9~11	10.1	13
Gill-rakers on lower limb	23~25	23.8	10	29~30	29.5	13
Total gill-rakers	31~34	32.2	10	39~41	39.6	13
Standard length (mm)	49.5~63.5		3	70.0~83.5		10
Head length (in % of SL)	27.3~27.6	27.5	3	24.6~26.4	25.6	10
Predorsal length (in % of SL)	49.5~51.7	50.8	3	53.1~55.6	54.3	10
Caudal fin length (in % of SL)	38.6~39.7	39.2	3	30.3~35.1	32.6	7
Interorbital width (in % of HL)	40.6~42.9	41.4	3	35.8~39.6	37.5	10

Caudal fin rich yellow, distal edge pale.

Comparison Material of *X. gudgeri* and *Amblyrhynchichthys truncatus* used for comparison is given at the end of the text. *X. loppei* agrees with *X. gudgeri* in the possession of adipose eyelids, a lateral fold on either side of the snout, no barbels and an osseous, serrate last simple ray in the dorsal fin. All these characters have been considered to be diagnostic characters of the genus *Xenocheilichthys*(Smith, 1934; Durand, 1940). The two species are closely resemble further in the features of the pharyngeals and their theeth; in both the species the pharyngeals are broad and short, with broad and perforated pitted surfaces, and the teeth are stout, counting 2·3·4–4·3·2, and with heart-shaped grinding surfaces, though the teeth are more closely aggregated in *X. gudgeri* (Figs. 2A, B). These similarities in structural characters will suffice the inclusion of the two species in the same genus.

X. loppei and *X. gudgeri* show a distinct separation in the anal fin-ray, lateral line scale, and gill-raker counts (Table 1). In proportional length of body parts the two species are close except for the more or less marked difference in head length, interorbital width, predorsal length and caudal fin length (Table 1). The dorsal fin is originated in advance of the pelvic insertion in *X. loppei*, instead of opposite or behind the pelvic insertion as in the other. The coloration of *X. gudgeri* is plain silver with no markings, thus the two species are readily distinguishable.

Durand (1940) and Smith (1945) have indicated resemblance between the genera *Xenocheilichthys* and *Amblyrhynchichthys* in the features of the snout region, eyelid, and simple dorsal ray. We examined pharyngeals and their teeth in *A. truncatus* (Bleeker); the teeth are in the same arrangement as in *Xenocheilichthys*, but the pharyngeals are much longer and narrower, with dorsal limbs greatly elongate and recurved forward (Fig. 2C). *Xenocheilichthys* may be close to *Amblyrhynchichthys*, but they will stand as distinct genera.

Distribution The two species of *Xenocheilichthys* appear to show more or less clear segregation in geographic range. *X. gudgeri* is abundant throughout the middle (Laotian) Mekong and also found in northern Thailand, but may be absent from or rare in the lower Mekong. Whereas *X. loppei* seems confined in the lower (southernmost Laotian, Cambodian and Vietnamese) Mekong and southern, peninsular section of Thailand. Specimens recorded as *X. gudgeri* from the Mekong delta by Kawamoto *et al.* (1972) were examined by us and prove to be *A. truncatus*.

Reference material *Xenocheilichthys gudgeri:* Laos: 1, 65.0 mm SL, Mekong River at Ban Lieng, near Pakse, May 26, 1970, IBRP 4031; 15, 50.0~63.0 mm SL, Mekong R. at Luang Prabang, Jun. 13, 1970, IBRP 4105; 10, 59.5~73.0 mm SL, Nam Suong R. near Luang Prabang, Jun. 15, 1970, IBRP 4164; 25, 36.5~59.5 mm SL, Mekong R. at Sithan Tay, near Vientiane, Jun. 17, 1970, IBRP 4206; 7, 34.5~

42.5 mm SL, Mekong R. at Vientiane, Jul. 16, 1970, IBRP 4361; 1, 87.5 mm SL, Nam Khon R. at Tha Ngon, Jul. 17, 1970, IBRP 4380; 10, 70.0～83.5 mm SL, Nam Suong R. near Luang Prabang, Aug. 10, 1970, IBRP 4587; 4, 48.0～54.5 mm SL, flooded backwater area along Se Done R. at Pakse, Aug. 29, 1970, IBRP 4601; 1, 106.0 mm SL, Mekong R. at Hatsalao, near Pakse, Feb. 9, 1971, IBRP 5240; 17, 39.0～79.0 mm SL, Mekong R. at Sithan Tay, near Vientiane, May, 5, 1971, IBRP 5657. Thailand: 1, 55.0 mm SL, Mekong R. at Tha Bo, May 8, 1971, IBRP 5776. *Amblyrhynchichthys truncatus:* 1, 66.0 mm SL, Bassac R. at Cantho, Mar. 1, 1974, IBRP 6083; 1, 97.5 mm SL, Bassac R. near Chau Doc, Mar. 19, 1974, IBRP 6209; 1, 93.5 mm SL, Bassac R. at Chau Doc, Jul. 25, 1974, IBRP 6285; 3, 41.5～42.5 mm SL, market at Cantho, Oct. 12, 1974, IBRP 6420.

Acknowledgments

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ラオス・ヴィェトナム域メコンおよびタイ国半島部から得られたコイ科魚類 *Xenocheilichthys loppei*

今木　明・多紀　保彦

ラオス・ヴィェトナムのメコン河とマレイ半島部のタイ国から採集されたコイ科の稀種 *Xenocheilichthys loppei* を記載した．本種は同属の *X. gudgeri* と外部形態のほか咽頭骨・咽頭歯の形状で酷似し，他方臀鰭条・側線鱗数および体色で区別される．*Amblyrhinchichthys* 属は *Xenocheilichthys* 属と外部形態において類似性を示すが，咽頭骨の形態で著しく異なる．

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