

Pseudobagrus pratti (Günther, 1892), a Senior
Synonym of *P. emarginatus* (Regan, 1913)
(Siluriformes: Bagridae)

Katsutoshi Watanabe

Laboratory of Ichthyology, Tokyo University of Fisheries,
4-5-7 Konan, Minato-ku, Tokyo 108, Japan

(Received October 7, 1994; in revised form May 24, 1995;
accepted July 18, 1995)

The Chinese bagrid, *Pseudobagrus pratti*, was originally described as *Macrones pratti* by Günther in Pratt (1892) based on a single specimen collected by Pratt from Kia-tiang-fu, Sze Chuen (=Sichuan) Province, China. Subsequently, Regan (1913) described *P. emarginatus* (as *Liocassis emarginatus*) based on other specimens collected by Pratt from the same locality as that of the holotype of *P. pratti*, without referring to the latter. Both species have been treated as valid in recent monographs of Chinese freshwater fishes, e.g., Institute of Aquatic Biology, Hubei Province (1976), Chen and Zheng

eds. (1987), Cheng et al. (1987) and Ding (1994). However, after examination of the type specimens of *P. pratti* and *P. emarginatus*, it was concluded that they were conspecific. This paper elucidates the synonymy of and presents the diagnostic characters for *P. pratti*.

Materials and Methods

Materials examined.—*Pseudobagrus pratti*: BMNH (The Natural History Museum) 1891.6.13: 25 (holotype; Fig. 1A), 184.3 mm SL (standard length), male, Kia-tiang-fu, Sze Chuen (=Sichuan Prov.), China; BMNH 1936.10.19: 63-64, 135.5 and 143.2 mm SL, 2 males, Chunking, China. *P. emarginatus*: BMNH 1891.6.13: 21 (4 syntypes; Fig. 1B), 74.6-101.0 mm SL, 4 females, Kia-tiang-fu, Sze Chuen, China.

Methods.—Counts and measurements followed those of Hubbs and Lagler (1967), except as follows. The last two rays of the dorsal and anal fins were counted separately, whereas the first 2-4 spiny soft rays of the anal fin were counted as a single ray, such counts thereby corresponding to the number of proximal pterygiophores in each case. The vertebral number included both the pleurostyle and the anterior five vertebrae comprising the Weberian com-

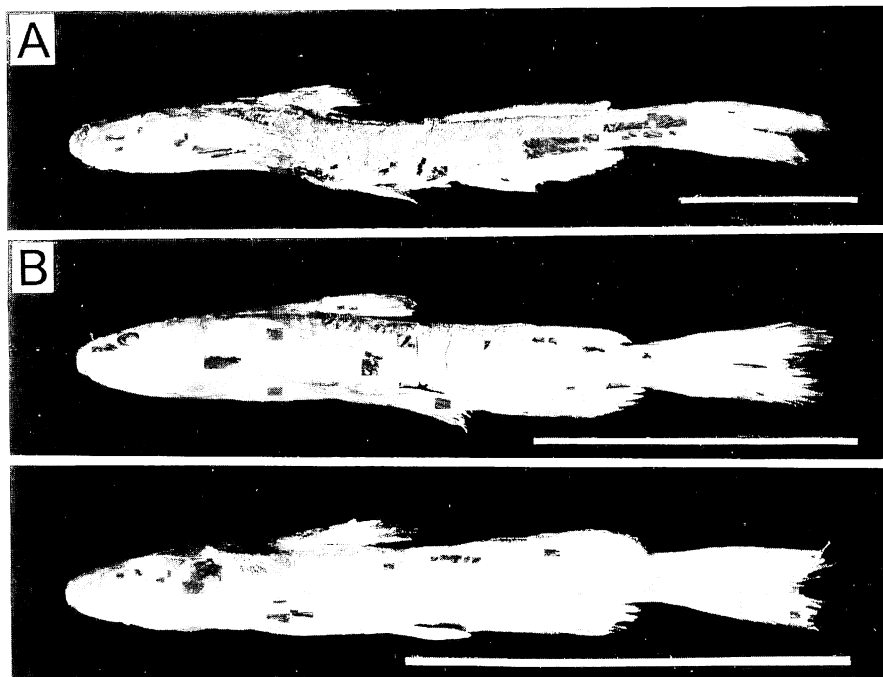


Fig. 1. (A) Holotype of *Pseudobagrus pratti* (BMNH 1891.6.13: 25; 184.3 mm SL), and (B) syntypes of *P. emarginatus* (BMNH 1891.6.13: 21; above 96.8 mm, below 74.6 mm SL), both from Kia-tiang-fu, Sze Chuen (=Sichuan), China. Scale indicates 50 mm.

plex. Radiographs were used to count the anal fin rays (=proximal pterygiophores) and vertebral numbers.

Results and Discussion

Counts and measurements of the type and other

specimens of *Pseudobagrus pratti* and *P. emarginatus* are shown in Table 1.

Regan (1913) characterized his new species, *Liocassis emarginatus*, as having a subterminal mouth and moderately emarginated caudal fin in his key of Chinese and Japanese *Liocassis* (= *Leiocassis*), although he gave no diagnosis for the genus. The

Table 1. Meristic and morphometric characters of *Pseudobagrus pratti* and *P. emarginatus*

	<i>Pseudobagrus pratti</i>			<i>P. emarginatus</i>			
	BMNH 1891.6.13: 25 Holotype	BMNH 1936.10.19: 63-64		BMNH 1891.6.13: 21 Syntypes			
Sex	♂	♂	♂	♀	♀	♀	♀
Standard length (SL; mm)	184.3	143.2	135.5	101.0	96.8	81.8	74.6
Meristics							
Dorsal	II, 7	II, 7	II, 7	II, 7	II, 7	II, 7	II, 7
Anal	18	17	18	19	18	18	18
Pectoral	I, 8	I, 8	I, 8	I, 8	I, 8	I, 8	I, 8
Pelvic	6	6	6	6	6	6	6
Caudal ^a	8+9	8+9	8+9	8+9	8+9	8+9	8+9
Vertebrae ^b	47	45	47	47	48	46	47
Morphometrics							
In SL (%)							
Total length	117.5	117.6	118.0	117.1	119.5	119.4	114.9
Body depth	11.1	11.8	13.2	16.4	14.7	17.2	15.1
Head length	21.5	22.8	22.1	24.1	25.0	25.7	25.5
Caudal peduncle length	20.9	20.6	21.8	16.9	18.0	19.9	20.4
Caudal peduncle depth	5.8	5.0	6.2	7.2	6.7	7.5	7.2
Predorsal length	30.3	30.7	29.2	34.4	34.2	35.0	33.1
Preanal length	58.9	59.6	56.0	62.5	66.3	65.6	62.1
Prepectoral length	19.1	20.4	19.9	21.4	21.1	22.4	21.8
Prepelvic length	44.0	44.8	43.1	11.7	49.7	50.7	46.5
Length of dorsal fin base	9.4	9.7	9.7	10.2	11.4	11.0	10.3
Length of 1st soft ray of dorsal fin	12.9	15.2	14.5	14.2	16.6	17.1	16.8
Length of 2nd dorsal spine	9.0	11.7	9.6	9.2 ^c	13.1	12.7	12.8
Length of anal fin base	21.7	21.9	23.0	19.3	19.2	18.9	18.1
Height of anal fin	26.9	28.5	28.8	24.9	25.4	24.8	23.5
Length of 1st soft ray of pectoral fin	12.6	15.2	13.7	15.1	15.9	16.7	17.0
Length of pectoral spine	10.4	13.2	11.2	11.6	12.5	13.8	12.6
Length of pelvic fin	9.0	10.8	10.0	11.8	11.1	12.1	12.1
Maximum length of caudal fin	16.5	18.6	17.9	18.5	19.6	18.8	17.4
Minimum length of caudal fin	8.1	10.1	11.3	9.7	14.4	11.7	10.9
Length of adipose fin base	28.4	24.2	26.9	25.0	31.2	23.5	30.3
In head length (%)							
Snout length	36.0	37.0	34.4	37.9	39.3	41.9	37.9
Eye diameter	13.6	12.8	12.0	14.4	15.3	12.9	16.3
Head width	67.3	64.8	66.6	77.8	74.8	76.7	73.7
Mouth width	44.8	47.1	48.5	49.0	46.7	47.1	46.3
Interorbital width	28.5	30.6	30.4	33.3	31.4	35.7	32.6
Length of maxillary barbel	44.8	59.0	62.2	55.1	62.0	50.0	59.5
Length of outer mandibular barbel	38.3	49.5	51.8	49.4	51.7	42.9	42.1
Length of inner mandibular barbel	17.9	27.8	28.8	25.9	28.1	24.8	29.5
Length of nasal barbel	19.4	29.1	32.1	28.8	31.4	26.2	30.5

^aUpper + lower principal rays; ^bincluding five vertebrae comprising the Weberian complex; ^cmissing the tip.

specimens of *P. pratti* examined here exhibited the same characters. However, in spite of the conspicuous morphological similarity between *P. emarginatus* and *P. pratti*, the latter was not included in the above key, suggesting that Regan (1913) either overlooked or was completely unaware of Günther's species.

In the other characters examined, the syntypes of *P. emarginatus* did not differ significantly from *P. pratti*. Meristic counts of the two species were generally in close agreement (Table 1). While there were some proportional differences occurred, such as body depth, head length, caudal peduncle depth, and lengths of the second dorsal and pectoral spines (Table 1), such proportions are known to change with growth in many bagrids, including *Pseudobagrus ussuriensis* (referred to as *P. emarginatus* Sowerby [not Regan]), *P. koreanus* (referred to as *P. sp.*) (Uchida, 1939), and *P. aurantiacus* and *P. tokiensis* (Watanabe and Maeda, 1995). In general, as the body size increases, the body and caudal peduncle become lower, and the head and dorsal and pectoral fins smaller. Differences in these proportional characters between *P. pratti* and *P. emarginatus* were considered to be ontogenetic, because the specimens examined of the former were all larger than those of the latter.

In other characters, such as the depressed head shape and pectoral spine lacking serrations on its anterior edge, no differences were found between the syntypes of *P. emarginatus* and the holotype of *P. pratti*. Consequently, the syntypes of *P. emarginatus* were judged to be small specimens of *P. pratti*, the former name thus being a junior synonym of the latter.

P. pratti is distinguishable from other East Asian bagrids by the combination of the following characters: the pectoral spine lacking serrations on its anterior edge, the moderately notched or emarginated caudal fin, the anal fin rays numbering less than 20 (17–19), the body depth less than 20% in SL, the supraoccipital process not extending to the first dorsal proximal pterygiophore (=supraneural of some authors), the maxillary barbel not extending to the base of the pectoral fin, and the nasal barbel not extending to the posterior margin of the eye.

Günther (1892), in the original description of *P. pratti*, mentioned that *Liocassis torosilabris* Sauvage and Thiersant, 1874 might be the same species as his *P. pratti*. A nominal species, the type specimen(s) of which have probably been lost, *L. torosilabris* has apparently never been considered in the modern

literature. Judging from the original description, the species is here considered to be different from *P. pratti*, owing to the former's supraoccipital process extending to the first dorsal proximal pterygiophore, in addition to two characters pointed out by Günther (1892), the former's "movable labial teeth" and "denticulated dorsal spine longer than the pectoral."

Comparative Materials

East Asian bagrids possessing a pectoral spine without serrations on its anterior edge.—*Pseudobagrus adiposalis*: CAS (California Academy of Sciences) 123176 (4 specimens) (paratypes), ANSP (Academy of Natural Sciences, Philadelphia) 63182 (1); *P. albomarginatus*: CAS 132531 (7), AMNH (American Museum of Natural History) 11049 (14 out of 28); *P. analis*: AMNH 9680 (1) (holotype); *P. argentivittatus*: ZUMT (University of Tokyo, Department of Zoology, University Museum) 43819 (9); *P. brashnikowi*: MCZ (Harvard University, Museum of Comparative Zoology) 32409 (2), MCZ 100930 (4); *P. crassilabris*: BMNH 1864.7.9: 9 (1) (holotype); *P. crassilabris macrops*: AMNH 8445 (1) (holotype); *P. crassirostris*: BMNH 1891.6.13: 23 (1) (holotype); *P. eupogoides*: MCZ 29832 (1), MNHN (Museum National d'Histoire Naturelle, Paris) 5091-1 (1); *P. herzensteini*: MCZ 100929 (1); *P. hoi*: MNHN 1939-33 (1) (holotype); *P. longirostris*: AMNH 10361 (11 out of 18), AMNH 13622 (1); *P. medianalis*: BMNH 1904.1.26: 44–46 (3) (syntypes), *P. nitidus*: AMNH 10272 (4), AMNH 10439 (15); *P. omeiensis*: AMNH 15217 (1) (holotype); *P. similis*: AMNH 8444 (1) (holotype); *P. tenuifurcatus*: AMNH 9681 (1) (holotype), AMNH 11086 (1) (paratype); *P. tenuis*: BMNH 1893.7.30: 72 (1) (holotype); *P. truncatus*: BMNH 1891.6.13: 24 (5) (syntypes); *P. ussuriensis*: NSMT-P36058 (9), SMWU (Sang Myung Women's University, Seoul) 2523 (4); *P. vachelli*: CAS 128744 (20).

Acknowledgments

I am grateful to Drs. Y. Taki, H. Kohno and A. Doi (Tokyo University of Fisheries) for their advice and comments on this paper. I also thank Dr. K. Sakamoto (ZUMT) for reading the manuscript. For the loan of specimens, I am deeply grateful to Mr. P. Campbell (BMNH), Mr. D. Catania (CAS), Dr. G. Duhamel (MNHN), Mrs. M. N. Feinberg (AMNH), Dr. K. E. Hartel (MCZ), Dr. S. R. Jeon (SMWU), Dr. W. G. Saul (ANSP) and Dr. Y. Tominaga (ZUMT).

Literature Cited

- Chen, J., T. Xu, S. Fang, S. Song and X. Wang. 1987. Fishes in Qinling Mountain area. Science Press, Beijing. vi+260 pp. (In Chinese with English abstract.)

- Cheng, Q. and B. Zheng (eds.). 1987. Systematic synopsis of Chinese fishes. Science Press, Beijing. 1458 pp. (In Chinese.)
- Ding, R. 1994. The fishes of Sichuan, China. Sichuan Publishing House of Science and Technology, Chengdu, Sichuan. 641 pp. (In Chinese with English summary.)
- Günther, A. 1892. Appendix II. Page 245 in A. E. Pratt, ed. To the snow of Tibet through China. Longmans, Green & Co. London and New York.
- Hubbs, C. L. and K. F. Lagler. 1967. Fishes of the Great Lakes region, 2nd ed. Univ. Michigan Press, Ann Arbor. 213 pp.
- Institute of Aquatic Biology, Hubei Province (ed.). 1976. Fishes of the Chang Jiang (Yangtze) River. Science Press, Beijing. 278 pp. (In Chinese.)
- Regan, C. T. 1913. A synopsis of the siluroid fishes of the genus *Liocassis*, with descriptions of new species. Ann. Mag. Nat. Hist., Ser. 8, (11): 547-554.
- Sauvage, H. E. and D. de Thiersant. 1874. Les poissons des eaux douces de Chine. Ann. Sci. Nat., Ser. 6, (1): 1-18.
- Uchida, K. 1939. The fishes of Tyosen (Korea), Part 1. Bull. Fish. Exp. Sta., Government-General of Tyosen, (6): 43-55. (In Japanese.)
- Watanabe, K. and H. Maeda. 1995. Redescription of two ambiguous Japanese bagrids, *Pseudobagrus aurantiacus* (Temminck and Schlegel) and *P. tokiensis* Döderlein. Japan. J. Ichthyol., 41: 409-420.
- Pseudobagrus pratti* (Günther, 1892) (ナマズ目ギギ科) は *P. emarginatus* (Regan, 1913) の古参シノニム**
- 渡辺勝敏
- 中国産ギギ科魚類 *Pseudobagrus pratti* (Günther, 1892) と *P. emarginatus* (Regan, 1913) の模式標本を比較した結果、後者の模式標本は前者の小型の雌個体であり、前者は後者の古参シノニムであると判断された。東アジア産ギギ科魚類において、*P. pratti* は、前縁に鋸歯のない胸鰭棘、楔形に湾入した尾鰭、20本未満の臀鰭軟条数、20%未満の体高/体長比、背鰭第1近位担鰭骨(上神経骨)に達しない上後頭骨突起、胸鰭起点に達しない上顎鬚、そして眼の後縁を越えない後鼻孔鬚といった形質の組み合わせによって特徴づけられる。
- (〒108 東京都港区港南 4-5-7 東京水産大学魚類学研究室)