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PARAMBASSIS ALTIPINNIS, A NEW SPECIES OF FRESHWATER GLASSFISH FROM WESTERN NEW GUINEA (PISCES, AMBASSIDAE)

Gerald R. ALLEN

ABSTRACT

A new species of glassfish (Ambassidae) belonging to the genus *Parambassis* is described from 20 specimens collected in the Idenburg (Mamberamo) River of north-western New Guinea (Irian Jaya). *Parambassis altipinnis* n.sp. is distinguished by a combination of features which include a relatively tall dorsal fin, a high lateral-line scale count, and a lack of dark pigmentation.

INTRODUCTION

The glassfishes of the family Ambassidae are restricted to the tropical and subtropical Indo-West Pacific faunal province. Throughout most of the area these small (most under 10 cm SL) fishes dwell in brackish estuaries, often among the submerged roots of mangrove trees, or in the lower reaches of streams influenced by tidal movements. In the Australia-New Guinea region approximately a dozen species have evolved which are entirely restricted to fresh water. Most of these species belong to the genus *Ambassis* Lacepede, which also contains a number of marine or estuarine species. The only comprehensive review of the family is that of Fraser-Brunner (1954) who recognised 39 species belonging to eight genera. However, this work was based on relatively few specimens and is inadequate for separating the many closely related species contained, particularly those in the genus *Ambassis*. The most recent treatment of the New Guinea species is that of Munro (1967) in which brief descriptions and a key to six genera and 16 species are included. The present author in conjunction with W.E. Burgess

is currently preparing a paper on the Australian Ambassidae. Additional studies of the New Guinea species are planned for the near future.

The present paper describes a new species of *Parambassis* Bleeker (1874) which was recently found amongst unsorted collections at the Zoölogisch Museum, Amsterdam. These fishes were procured by W.C. van Heurn during an expedition to the Mamberamo (formerly Idenburg) River of northern Irian Jaya in 1920. The genus *Parambassis* is similar to *Ambassis*, but differs chiefly by its smaller, more numerous scales (usually 35-55 transverse rows vs. 25-30). The group is restricted to fresh water, usually along the edges of streams were there is abundant vegetation. The principle dietary items include aquatic and terrestrial insects, small crustaceans and occasional fishes. The genus contains the following seven species with approximate distributions indicated in parentheses: *P. apogonoides* Bleeker (Sumatra and Borneo): *P. altipinnis* n.sp. (northern New Guinea); *P. confinis* (Weber) (northern New Guinea); *P. gulliveri* Castelnau (northern Australia and southern New Guinea); *P. macrolepis* (Bleeker) (Sumatra and Borneo); *P. thomassi* (Day) (India to Malay Peninsula); and *P. wolffi* (Bleeker) (Sumatra, Borneo, and Malay Peninsula).

Terminology for head serration is from Fraser-Brunner (1954). Most other terms relating to morphology are self explanatory except predorsal, preanal, and prepelvic distances refer to the measurements between the tip of the upper jaw and the origin of dorsal, anal, and pelvic fins respectively. Data in parentheses indicate the range for paratypes when differing from the holotype. Counts and proportional measurements are summarised in Tables 1 and 2. Type specimens are deposited at the National Museum of Natural History, Washington, D.C. (USNM), the Western Australian Museum, Perth (WAM), and the Zoölogisch Museum, Amsterdam (ZMA).

Parambassis altipinnis n.sp.
(Fig. 1; Tables 1 and 2)

Holotype: ZMA 116.452, 94.2 mm SL, Idenburg River (now Mamberamo River) at Prauwenbivak (approximately 2°18'S, 138°33'E), Irian Jaya, Indonesia, W.C. van Heurn, September 1920.

Paratypes (collected with holotype): USNM 227493, 2 specimens, 80.8 and 81.2 mm SL; WAM P27378-001, 7 specimens, 73.5-89.5 mm SL; ZMA 116.453, 10 specimens, 78.7-113.4 mm SL.

Diagnosis.-

A species of *Parambassis* with the following combination of characters: dorsal rays VII,I,10 or 11; anal rays III,9 or 10; pectoral rays 15 or 16; tubed lateral-line scales 47 to 52; tallest dorsal spine greater than head length, about equal to greatest body depth; colour uniform, probably semi-transparent in life without distinguishing marks.

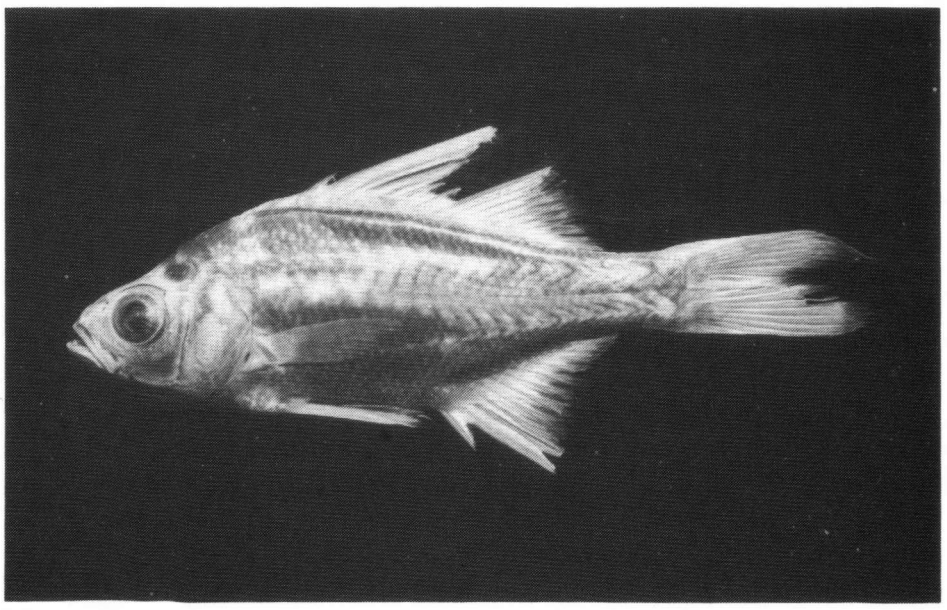

Fig. 1. *Parambassis altipinnis*, paratype, 87.5 mm SL.

Description.-

Dorsal rays VII,I,10 (10 or 11); anal rays III,9 (9 or 10); pelvic rays I,5; pectoral rays 16 (15 or 16); tubed lateral line scales 51 (47 to 52); horizontal scale rows above lateral line 5, below lateral line 13 (11 to 14), on cheek 3 (3 or 4); predorsal scales 28 (23 to 29); gill rakers on first arch 8 + 18 (7 or 8 + 17 to 19).

Greatest body depth 2.7 (2.7 to 2.9), head length 3.0 (2.9 to 3.2), predorsal distance 2.2 (2.2 to 2.3), preanal distance 1.6, prepelvic distance 2.8 (2.7 to 2.9), all in standard length. Snout length 4.4 (4.4 to 5.2), eye diameter 3.3 (3.1 to 3.7), interorbital width 5.0 (4.5 to 4.9), maxillary length 3.0 (2.7 to 2.8).

Mouth terminal, jaws relatively large, oblique in position; maxillary reaches level of anterior portion of pupil; a dense band consisting of 4 or 5 rows of viliform or conical teeth in jaws, their tips curved posteriorly; similar teeth on vomer in V-shaped patch and a narrow band on each palatine bone.

All scales cycloid; lateral line continuous from upper edge of operculum to base of caudal fin. Supraorbital serrae 1 (1 or 2); suborbital serrae 16 (16 to 22); preorbital ridge usually smooth, but a few weak serrae present in several paratypes; serrae on preorbital margin 12 (11 or 12); preopercular ridge mainly smooth in holotype except 2 serrae at angle, 6 to 12 serrae in paratypes; preopercular margin with 16 serrae on lower edge and 20 serrae on vertical limb (15 to 22 + 18 to 25); serrae on interopercle 5 (5 to 10); edge of opercle smooth.

First dorsal fin originates about two-thirds eye diameter behind pelvic fin origin; anal origin directly below level of soft dorsal fin origin. First dorsal spine very short, 5.3 (4.0 to 5.5) in head length; second dorsal spine greatly elevated, 0.9 (0.8 to 1.0) in head length; remaining dorsal spines progressively decreasing in length, except last spine which is about two-thirds length of second spine or 1.5 (1.4 to 1.5) in head length. Soft dorsal fin and last dorsal spine separated from spinous portion of fin by deep notch; longest soft dorsal ray 1.5 (1.4 to 1.7) in head length. First anal spine 3.5 (3.1 to 4.0), second anal spine 1.5 (1.4 to 1.6), both in head length. Third anal spine 1.5 (1.4 to 1.6), both in head length. Third anal spine slightly shorter than second spine and less robust; longest soft anal ray 1.7 (1.5 to 1.7), in head length. Pectoral fins 1.3 (1.3 to 1.5), pelvic fins 1.2 (1.1 to 1.3), pelvic spine 1.7 (1.5 to 1.9), all in head length. Caudal fin forked, 1.0 (0.9 to 1.1) in head length.

Colour in alcohol: after 61 years in preservatives the ground colour of the body is dark brown and the fins are tan. The live coloration is unknown, but judging from most members of the family the fish is probably semi-transparent.

Comparisons.-

Parambassis altipinnis appears to be most closely related to *P. confinis* (Weber) from northern New Guinea between the Sepik and Mamberamo Rivers. The two species are easily separated on the basis of dorsal fin height, lateral line scale counts, and coloration. The dorsal fin height of *P. altipinnis* exceeds or is equal to the head length, whereas in *P. confinis* the height of this fin is always significantly less than the head length (0.8 to 1.0 in head for *altipinnis* vs. 1.1 to 1.3 for *confinis*). Lateral-line scale counts for *P. altipinnis* generally exceed 47, while in *P. confinis* the range is about 37 to 46. The latter species is distinguished by the presence of a distinct, broad horizontal black band along the middle of the sides and a dark streak on each caudal fin lobe. Moreover, the body is generally brownish above and abruptly silvery-white below the mid-lateral band, and the outer half of the spinous dorsal fin is blackish. *Parambassis altipinnis* in contrast is uniformly coloured without dark markings. The above comparisons are based on eight specimens of *P. confinis* (subspecies *confinis* Weber and *occidentalis* Weber) examined at ZMA (registration numbers 109.469, 112.396, and 112.399).

Remarks.-

The species is named *altipinnis* (Latin: high-fin) with reference to the exaggerated height of the dorsal fin.

Table 1. Proportional measurements for five type specimens of *Parambasis altipinnis* expressed as percentage of the standard length.

	Holotype	Paratypes			
	ZMA 116.452	ZMA 116.453			
Standard length (mm)	94.2	78.2	104.0	109.0	113.4
Body depth	36.5	37.1	34.8	36.6	36.6
Head length	32.9	33.9	31.5	33.0	34.1
Snout length	7.5	6.5	6.7	7.1	7.6
Eye diameter	10.1	10.8	9.8	9.2	9.3
Interorbital width	6.6	7.0	7.0	6.6	7.1
Maxillary length	11.0	12.4	11.7	11.9	12.4
Predorsal distance	45.4	45.7	43.6	45.0	44.7
Preanal distance	63.2	61.6	61.1	60.7	64.0
Prepelvic distance	35.5	36.2	34.6	33.9	36.4
First dorsal spine	6.2	6.1	7.6	8.2	7.8
Second dorsal spine	36.1	34.3	35.0	35.0	35.0
Last dorsal spine	22.1	22.8	21.4	23.5	21.0
Longest soft dorsal ray	21.7	22.5	22.5	24.0	20.1
First anal spine	9.4	9.0	7.8	10.7	8.6
Second anal spine	22.3	23.0	23.0	22.5	20.7
Longest soft anal ray	19.3	22.0	20.3	21.6	20.4
Pectoral fin length	25.4	25.6	23.4	21.5	23.4
Pelvic fin length	27.6	27.7	25.5	29.3	26.1
Pelvic spine length	19.5	19.8	18.8	21.8	17.6
Caudal fin length	32.9	36.2	30.7	31.1	26.7[1]

[1]) denotes damaged condition.

Table 2. Selected counts for type specimens of *Parambassis altipinnis*.

Soft dorsal rays

10	11
15	5

Soft anal rays

9	10
14	6

Pectoral rays

15	16
13	7

Scale rows on cheek

3	4
6	14

Lateral-line scales

47	48	49	50	51	52
1	1	5	3	6	1

Predorsal scales

23	24	25	26	27	28	29
1	3	3	6	3	2	1

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Dr. Gerald R. Allen,
Department of Ichthyology,
Western Australian Museum,
Francis Street,
Perth, Western Australia 6000,
Australia.

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