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MELANOTAENIA CORONA, A NEW SPECIES OF RAINBOWFISH FROM NORTHERN NEW GUINEA

(PISCES, ATHERINIFORMES, MELANOTAENIIDAE)

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ABSTRACT

Melanotaenia corona, a new species of melanotaeniid rainbowfish, is described on the basis of two specimens collected in 1911 from the Sermowai River, northern New Guinea (now the Irian Jaya province of Indonesia). It differs from other members of the genus in the shape of the dorsal and anal fin outline and colour pattern.

INTRODUCTION

The family Melanotaeniidae contains approximately 50 species referable to seven genera. The group is confined to fresh waters (one species also in brackish water) of the Australia-New Guinea region. The author has made extensive field collections in Australia and the eastern half of New Guinea (now an independent country, Papua New Guinea) during the past six years. This material formed the basis of a recent study of the generic relationships in the family (Allen, 1980) and a monograph currently in preparation. The western half of New Guinea or

Irian Jaya as it is now known remains poorly studied. The most recent collections were made by Boeseman in 1954-1955, but most of these specimens remain unreported. Prior to Boeseman's work important collections were made by de Beaufort (1903 and 1910), Gjellerup (1910-1911), Gooszen (1909), van Heurn (1920), van Kampen (1910-1911), Koch (1904), and Lorentz (1907 and 1909). Most of these collections were summarised by Weber (1908 and 1913). However, a few specimens apparently escaped Weber's attention, including two representatives of a new rainbowfish collected in 1911 at the Sermowai River by K. Gjellerup. This species is describ-

ed below as *Melanotaenia corona*. The holotype is deposited in the collection of the Zoölogisch Museum, Amsterdam (ZMA) and the paratype at the Western Australian Museum, Perth (WAM).

Standard length (SL) was taken from the most anterior point of the upper lip to the midbase of the caudal fin (end of hypural plate). Head length was measured from the front of the upper lip to the rear edge of the opercular membrane. The depth of the body was measured at the level of the pelvic fin base. Body width was measured just behind the gill opening. The diameter of the orbit is the horizontal fleshy diameter. The interorbital width is the bony width at the middle of the orbits. The depth of the caudal peduncle is the least depth. The length of the caudal peduncle is the horizontal measurement connecting two vertical lines, one passing through the base of the last dorsal ray and the other through the base of the middle caudal rays. Predorsal, preanal, and prepelvic distances were measured from the snout tip to the base of the first dorsal, anal, and pelvic spines respectively. Predorsal scales were counted on the dorsal midline between the origin of the first dorsal fin and the interorbital. Preopercle-suborbital scale counts refer to the total number of scales overlying the preopercle bone. Pectoral ray counts include the rudimentary lowermost rays.

Millimetric and proportional measurements for the holotype and paratype are summarised in

Table 1. Counts for the paratype are indicated in parentheses if different than the holotype.

Melanotaenia corona n.sp.

(Fig. 1; Table 1)

Material examined.-

Holotype (ZMA 116.451), 97.5 mm SL and paratype (WAM P27386-001), 84.8 mm SL collected at Sermowai River, near Walckenaer Bay, northern New Guinea (approximately 2°47'S, 140°00'E) by K. Gjellerup, 29 April 1911. Both specimens are males.

Description.-

Dorsal rays IV-I,13; anal rays I,22; pectoral rays 15 (14); horizontal scale rows between anus and base of first dorsal fin 10; vertical scale rows from upper corner of gill opening to caudal fin base 38 (36); predorsal scales 15 (16); preopercle-suborbital scales 16; gill rakers on first branchial arch 3 + 13 (14). Body ovate, laterally compressed, the snout somewhat pointed. Predorsal profile straight, the interorbital and adjacent nape flattened. Ventral, prepelvic profile steeper than predorsal profile, the breast strongly compressed at ventral midline.

Jaws oblique, the lower jaw slightly inferior; premaxilla with an abrupt bend between the anterior horizontal portion and lateral part; rear edge of maxilla about level with front of eye; lips thin; both jaws with dense covering of teeth arranged in irregular rows;

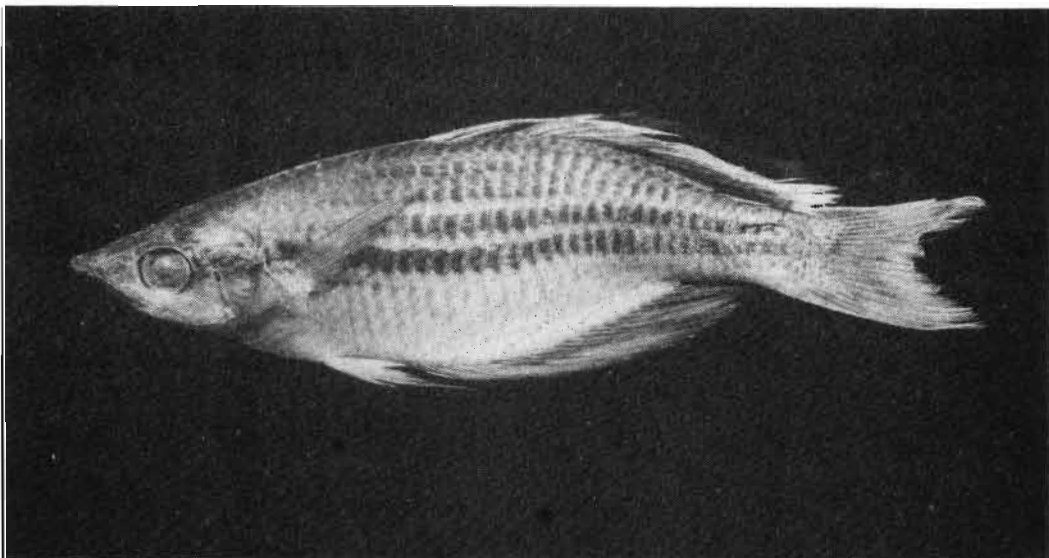


Fig. 1. *Melanotaenia corona* n.sp., paratype, 84.8 mm SL.

teeth conical with slightly curved tips; teeth on anterior and lateral portions of premaxilla invading lips and distinctly visible when mouth is closed; exposed teeth also visible at front of lower jaw, particularly a dense patch which fits into notch of adjacent premaxilla when mouth is closed; vomer with patch of conical teeth; palatines with a narrow band of similar teeth.

Scales relatively large, arranged in regular horizontal rows; scales with smooth or slightly crenulate margins; predorsal scales extending to rear of interorbital; preopercle-suborbital scales in two rows.

First dorsal fin originates slightly behind anal fin origin, about level with base of third soft anal ray; first spine 2-3 times thickness of other spines of first dorsal fin; third

spine the longest, its tip reaching base of about third soft ray of second dorsal fin when depressed. Seventh or eighth soft ray of second dorsal fin the longest; depressed tip of second dorsal fin extending slightly beyond caudal fin base. Anal spine slightly shorter than first dorsal spine, which is about $\frac{1}{2}$ head length; longest rays of anal in middle portion of fin. Soft dorsal and anal fins relatively high for the genus, with rounded outlines; pectoral fins pointed; pelvic fin tips when depressed extending to about base of 3rd-5th soft anal ray; caudal fin moderately forked.

Colour in alcohol: upper half of body with four dark brown longitudinal stripes, each nearly one scale in width, separated by narrow tan stripes; dark stripes merging with dark brown coloration of dorsal part of head and nape;

Table 1. Millimetric and proportional measurements for the type specimens of *Melanotaenia corona* n.sp.

Character	HOLOTYPE			PARATYPE		
	measurement (mm)	% SL	ratio	measurement (mm)	% SL	ratio
Standard length	97.5	-	-	84.8	-	-
Depth	36.1	37.0	2.7 ¹	28.0	33.0	3.0 ¹
Width	13.9	14.3	7.0 ¹	12.0	14.2	7.1 ¹
Head length	28.0	28.7	3.5 ¹	24.0	28.3	3.5 ¹
Snout to 1st dorsal fin origin	50.0	51.3	2.0 ¹	43.0	50.7	2.0 ¹
Snout to anal fin origin	47.1	48.3	2.1 ¹	40.5	47.8	3.1 ¹
Snout to pelvic fin origin	37.0	37.9	2.6 ¹	31.0	36.6	2.3 ¹
Length of 2nd dorsal fin base	26.3	27.0	3.7 ¹	22.8	26.9	3.7 ¹
Length of anal fin base	40.5	41.5	2.4 ¹	35.0	41.3	2.1 ¹
Snout length	9.3	9.5	3.0	7.8	9.2	3.1
Orbit diameter	7.3	7.5	3.8	8.0	9.4	3.0
Bony interorbital width	10.6	10.9	2.6	9.2	10.8	2.6
Depth of caudal peduncle	11.7	12.0	2.4	9.5	11.2	2.5
Length of caudal peduncle	12.8	13.1	2.2	12.4	14.6	1.9
Length of pectoral fin	19.5	20.0	1.4	18.6	21.9	1.3
Length of pelvic fin	17.0	17.4	1.6	19.5	23.0	1.2
Longest ray of 1st dorsal fin	16.3	16.7	1.7	15.2	17.9	1.6
Longest ray of 2nd dorsal fin	20.8	21.3	1.3	22.7	26.8	1.1
Longest anal ray	21.5	22.1	1.3	21.7	25.6	1.1
Length of caudal fin	23.0	23.6	1.2	21.0	24.8	1.1

¹)Indicates ratio in relation to standard length, all other ratios are in relation to head length.

lower half of head and body pale tan; dorsal fins dark brown with distinct white border; caudal fin dusky brown with whitish distal margin (evident on paratype as caudal of holotype is damaged); anal fin dark brown; pelvic fins pale tan, slightly dusky on distal half; pectoral fins translucent.

The paratype exhibits a similar pattern, although the dark brown coloration is more vivid.

Etymology.-

The specific name *corona* is Latin, meaning rim or border, alluding to the distinctive white margin on the dorsal fins.

Discussion.-

Melanotaenia corona is easily distinguished from other members of the genus on the basis of colour pattern, particularly the combination of the four broad dark stripes on the back and the very dark coloration of the dorsal and anal fins. Moreover, it is the only member of the genus in which the longest soft rays of the dorsal and anal fin are located in the middle part of these fins, a character which is also present in the genus *Glossolepis*, a close ally of *Melanotaenia* (see Allen, 1980).

Sympatric occurrence.-

Four other species of rainbowfishes were

collected by Gjellerup from the Sermowai River: *Chilatherina crassispinosa* (Weber), *C. fasciata* (Weber), *C. lorentzi* (Weber), and *Melanotaenia affinis* (Weber). However, it is not known if they share the same habitat with *Melanotaenia corona*.

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