

Melanotaenia sneideri, a New Species of Rainbowfish (Melanotaeniidae), from West Papua Province, Indonesia

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Abstract

A new species of melanotaeniid rainbowfish, *Melanotaenia sneideri*, is described from the Bomberai Peninsula in the southwestern Bird's Head region of western New Guinea (West Papua Province, Indonesia). The new taxon is described on the basis of 25 specimens, 15.9-80.1 mm SL, collected from a karst spring-fed creek in a small ephemeral lake basin at an altitude of 1,050 m in the Kumawa Mountains. It is distinguished from congeners by a combination of the bright red body colour, dark brown to blackish dorsal, anal, and pelvic fins, and relatively deep body (to at least 42.3 % of SL) of adult males. Additional diagnostic features include 18-20 gill rakers on the first branchial arch, 15-16 circumpeduncular scales, and an absence of vomerine teeth or a small, inconspicuous patch of rudimentary vomerine teeth.

Zusammenfassung

Beschrieben wird eine neue Art der Regenbogenfische, *Melanotaenia sneideri*, von der Halbinsel Bomberai in der südwestlichen Vogelkopf-Gegend des westlichen Neuguinea (Provinz Westpapua, Indonesien). Das neue Taxon wird auf der Grundlage von 25 Exemplaren mit 15,9-80,1 mm SL beschrieben, die in den Kumawa-Bergen in 1.050 m Höhe aus einem kleinen zeitweiligen Seebecken in einem quellgespeisten Flüsschen in Karstgelände gesammelt wurden. Sie lassen sich von anderen Angehörigen der Gattung durch Farbmerkmale unterscheiden: leuchtend roter Rumpf, dunkelbraune bis schwärzliche Rücken-, After und Bauchflossen, sowie durch einen verhältnismäßig tiefen Körper bei den Männchen (bis mindestens 42,3 % der Standardlänge SL). Zu den weiteren Bestimmungsmerkmalen gehören die Zahl von 18-20 Kiemenreusen am ersten Kiemenbogen, 15-16 Schuppen um den Schwanzstiel, ganz fehlende oder nur als kleines, unauffälliges Rudiment vorhandene Gaumenzähne.

Résumé

Une nouvelle espèce de Melanotaeniidae, *Melanotaenia*

sneideri, est décrite, originaire de la Bomberai Peninsula au sud-ouest de la région du Bird's Head en Nouvelle-Guinée occidentale (West Papua Province, Indonésie). Ce nouveau taxon est décrit sur base de 25 spécimens, de 15,9 à 80,1 mm de LS, collectés dans un petit cours d'eau alimenté par une source karstique, dans un petit bassin lacustre temporaire à une altitude de 1.050 m, dans les monts Kumawa. Il se distingue de ses congénères par la combinaison suivante: le corps d'un rouge lumineux, des nageoires dorsale, anale et ventrale brun foncé à noires et un corps relativement haut (jusqu'à au moins 42,3% de la LS) pour les mâles adultes. Les caractéristiques diagnostiques comprennent 18-20 branchiospines sur le premier arc branchial, 15-16 écailles circumpédonculaires et l'absence de dents vomérines ou un groupe de petites dents vomérines rudimentaires ou imperceptibles.

Sommario

Una nuova specie di pesce arcobaleno, *Melanotaenia sneideri*, è descritta dalla penisola Bomberai della regione sud-occidentale di Bird's Head, Nuova Guinea occidentale (Provincia di West Papua, Indonesia). Il nuovo taxon è descritto sulla base di 25 esemplari di 15.9-80.1 mm SL, raccolti presso un torrente alimentato da una sorgente carsica in un piccolo bacino lacustre effimero, a un'altitudine di 1050 metri sulle montagne Kumawa. Si distingue dai congeneri per una combinazione di caratteri, in particolare un brillante color rosso del corpo, pinne dorsale, anale e pelviche dal marrone scuro al nerastro e per il corpo dei maschi adulti relativamente profondo (almeno al 42,3% della SL). Altre caratteristiche diagnostiche includono 18-20 branchiospine sul primo arco branchiale, 15-16 scaglie circumpeduncolari, e l'assenza di denti vomerini o al più la presenza di un piccolo, poco appariscente, raggruppamento di rudimentali denti vomerini.

INTRODUCTION

Rainbowfishes (Melanotaeniidae) are among the most common inhabitants of fresh waters of the

Australia and New Guinea region, both in terms of species and number of individuals. They occur in a huge variety of lotic and lentic habitats. Allen (1995) presented an overview of the family, recognising 55 species, including 13 from Australia, 40 from New Guinea, and three, which are shared. Recent taxonomic studies resulted in the description of 25 additional species, including three *Chilatherina* Regan, 1914 (Allen & Renyaan 1996a; Price 1997; Allen & Unmack 2012), two *Glossolepis* Weber, 1907 (Allen 2001; Allen & Renyaan 1998), 19 *Melanotaenia* Gill, 1862 (Allen 1996; Allen 1997; Allen & Hadiaty 2011; Allen & Renyaan 1996b and 1998; Allen & Unmack 2008; Allen et al. 2008; Kadarusman et al. 2010, 2011, and 2012; McGuigan 2001), and a new monotypic genus, *Pelangia* Allen, 1998. In addition, several species that were previously considered as synonyms or subspecies, including *Glossolepis kabia* (Herre, 1935), *Melanotaenia australis* (Castelnau, 1875), and *M. rubrostriatus* (Ramsay & Ogilby, 1886), were elevated to full specific status (Allen et al. 2002; Graf & Ohee 2009). Therefore, 82 species, including the new taxon described below, are currently known for the family.

Unmack et al. (2013) provided a genetic analysis of Melanotaeniidae, which indicates three main lineages corresponding with the major geographic regions of New Guinea (northern, southern, and western). Most of the 22 species endemic to western New Guinea (Bird's Head region of West Papua Province, Indonesia) appear to be closely allied. The majority of these inhabit the Raja Ampat Islands (e.g. Batanta, Misool, Salawati, and Waigeo) or have extremely limited local distributions, often restricted to lakes, small creeks, and springs in karst areas. Of particular interest is the relatively narrow "Bird's Neck" isthmus (Fig. 1) connecting the Bird's Head Peninsula with the remainder of New Guinea, including the Bomberai Peninsula. This area has a tumultuous geologic past and is among the most rugged landscapes on the island, containing extensive karst topography characterized by subterranean drainage and countless independent watersheds.

Polhemus (2006) gave a detailed summary of the tectonic history of the New Guinea region. Geologists are in general agreement that the core of the Bird's Head or Vogelkop Peninsula is a section of the Australian craton that became detached from the main continental mass sometime in the Mesozoic (Hamilton 1979). Pigram & Davies (1987)

date the separation of the Vogelkop from northwestern Australia as Early Cretaceous, but the resulting terrane did not move far (Hill & Hall 2003), probably remaining slightly southwest of the main section of New Guinea, and possibly undergoing in-place clockwise rotation of up to 90° (Hamilton 1979). During the Early Tertiary the original core of the Bird's Head was expanded by the fusion of the continentally-derived Misool terrane to its western margin and the arc-related Tamrau Terrane to its northern edge (Pigram & Davies 1987). This entire composite unit then moved eastward, colliding with greater New Guinea in the Miocene (approximately 5-6 MYA).

The former collision zone is very evident today in the form of the stacked anticlines of continental shelf limestone in the Lengguru Fold Belt of the "Bird's Neck" region. It is among the most rugged landscapes on the island, containing extensive karst topography with many lakes, forming reservoirs for independent watersheds. Most of the lakes thus far investigated appear to have subterranean drainage and harbour endemic rainbowfishes (Allen & Hadiaty 2011; Allen 1998; Allen & Renyaan 1996b). More recently, Kadarusman et al. (2012) described four species of *Melanotaenia* (*M. arguni*, *M. urisa*, *M. veoliae*, and *M. wanona*) from karst springs and associated creeks in the vicinity of Kaimana (03°39.727'S, 133°45.740'E).

The present paper describes an additional karst-spring associated species from the previously unexplored and isolated Kumawa Mountains (Fig. 1), which lie approximately 75 km southwest of the aforementioned Kaimana region. The distinctively coloured new species was discovered by Dr. Richard Sneider and collected for the authors during March 2013 by Max Ammer, Obed Holago, and Richard Sneider during the course of a helicopter reconnaissance of the Kumawa Mountains.

MATERIALS AND METHODS

Counts and measurements that appear in parentheses refer to the range for paratypes if different from the holotype. Type specimens are deposited at Museum Zoologicum Bogoriense, Cibinong, Java, Indonesia (MZB), National Museum of Natural History, Washington, D.C. (USNM), and Western Australian Museum, Perth (WAM).

The methods of counting and measuring are as follows: *dorsal and anal rays* – the last ray of the anal and second dorsal fins is divided at the base and counted as a single ray; *lateral scales* – number

of scales in horizontal row from upper edge of pectoral-fin base to caudal-fin base, excluding the small scales posterior to the hypural junction; *transverse scales* – number of scales in vertical row (excluding small truncated scales along base of fins) between anal-fin origin and base of first dorsal fin; *predorsal scales* – number of scales along midline of nape in front of first dorsal fin; *cheek scales* – total number of scales covering suborbital and preoperculum; *standard length (SL)* – measured from tip of upper lip to caudal-fin base; *head length (HL)* – measured from tip of upper lip to upper rear edge of gill opening; *caudal peduncle depth* is least depth and *caudal peduncle length* is measured between two vertical lines, one passing through base of last anal ray and the other through caudal-fin base;

caudal concavity – horizontal distance between verticals at tips of shortest and longest rays.

***Melanotaenia sneideri*, n. sp.**

Kumawa Rainbowfish

(Figs 2-4; Tables I-II)

Holotype: MZB 21375, male, 80.1 mm SL, small creek in Kumawa Mountains, 03°55.14'S, 133°02.873'E, Bomberai Peninsula, West Papua, Indonesia, hand nets, R. Sneider, 27 March 2013.

Paratypes (same data as holotype except collected by Obed Holago): MZB 21376, 11 specimens, 14.1-78.3 mm SL; USNM 409975, 4 specimens, 36.5-79.8 mm SL; WAM P.33872-001, 5 speci-

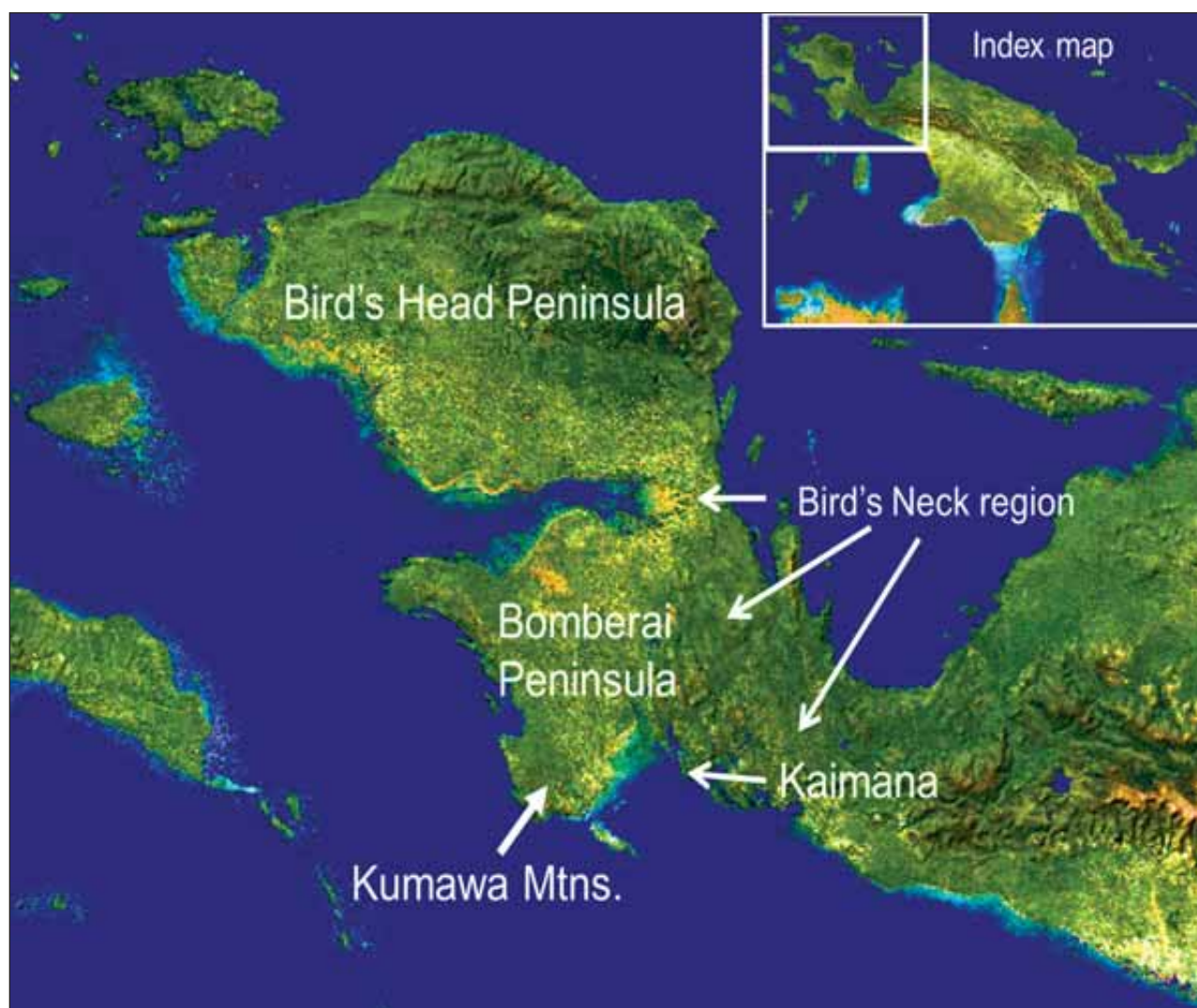


Fig. 1. Map of West Papua Province, Indonesia. The type locality of *Melanotaenia sneideri* is shown by the arrow indicating the Kumawa Mountains.

mens, 37.5-78.3 mm SL; WAM P.33872-002, 4 specimens, 15.9-69.6 mm SL.

Diagnosis: A species of melanotaeniid distinguished by the following combination of characters: dorsal rays IV to VI-I,13 or 14 (usually V-I,13); anal rays I,23-28 (most frequently 24); pectoral rays 13 to 15 (usually 14); lateral scales 34-36 (usually 35), predorsal scales 17-18; cheek scales 14-18 (\bar{x} = 15.6); circumpeduncular scales 15-16; total gill rakers on first arch 18-20 (usually 18-19); vomerine teeth absent or present as inconspicuous rudimentary patch; head length 3.6-4.0 (\bar{x} = 3.8) in SL; depth of caudal peduncle 2.3-2.8 (\bar{x} = 2.5) in HL; maximum body depth of male (80.1 mm SL) 42.3 % SL; colour in life of adult male generally bright red with bluish head, mainly dark brown to blackish dorsal, anal, and pelvic fins, and pinkish orange caudal fin.

Description: Dorsal rays V-I,13 (IV to VI-I,13 or 14); anal rays I,23 (I,23-28); pectoral rays 13/15 (13-15); pelvic rays I,5; branched caudal rays 15; procurent caudal rays 6 (5-6); lateral scales 35 (33-36); transverse scales 12; predorsal scales 17 (17-18); prepelvic scales 18 (17-19); cheek scales 14 (14-18; \bar{x} = 15.6); circumpeduncular scales 16 (15-16); total gill rakers on first arch 19 (18-20).

Body depth 2.4 (2.6-3.3) in SL; greatest body depth by sex and size class as follows: *male* – 35-55 mm SL, 33.7-34.5 % SL (\bar{x} = 34.1, N = 2); *male* – 69.6 mm SL, 37.2 % SL; *male* – 80.1 mm SL (holotype), 42.3 % SL; *females* – 33-55 mm SL, 29.2-30.7 % SL (\bar{x} = 30.1, N = 4); *females* – 70-84 mm SL, 30.3-38.2 % SL (\bar{x} = 34.2, N = 5); head length 3.7 (3.6-4.0) in SL; greatest width of body 2.7 (1.9-2.7) in greatest body depth; snout length

2.7 (2.7-3.3) in HL; eye diameter 3.6 (3.2-3.6) in HL; interorbital width 2.5 (2.4-2.8) in HL; depth of caudal peduncle 2.3 (2.3-2.8) in HL; length of caudal peduncle 1.5 (1.4-1.7) in HL.

Jaws nearly equal, mouth oblique, and premaxilla with an abrupt bend between anterior horizontal portion and lateral part; maxilla ends below about anterior edge of eye; maxillary length 2.6 (2.7-3.3) in HL; lips thin; teeth conical with slightly curved tips, those on upper jaw mainly on outer surface of lips; teeth of upper jaw in about 4-5 irregular rows anteriorly, reduced to 1-2 rows posteriorly, where exposed when mouth closed; teeth in lower jaw in about 7-8 irregular rows anteriorly, reduced to 2-3 rows posteriorly; teeth generally absent on vomer and palate, except small vestigial patch of vomerine teeth on one side of holotype and two paratypes; roof of mouth and upper surface of tongue covered with numerous slender papillae.

Scales of body cycloid with scalloped posterior margin, relatively large, and arranged in regular horizontal rows; row of small, truncated scales along bases of dorsal and anal fins; no scales on membranous portions of fins except several rows of



Fig. 2A-B. Live photographs of freshly collected holotype of *Melanotaenia sneideri*, male, 80.1 mm SL. Photos by R. Sneider.

Table I. Proportional measurements of selected type specimens of *Melanotaenia sneideri* expressed as % of the standard length.

	Holotype MZB 21375	Paratype USNM 409975	Paratype MZB 21376	Paratype USNM 409975	Paratype WAM P.33872	Paratype WAM P.33872	Paratype MZB 21376	Paratype WAM P.33872
Sex	male	female	female	female	male	male	female	female
Standard length (mm)	80.1	79.8	78.3	71.6	69.6	45.8	52.7	41.5
Body depth	42.3	34.2	32.7	30.3	37.2	34.5	29.8	30.6
Body width	15.5	16.2	16.5	15.9	15.2	13.5	15.2	13.0
Head length	27.1	25.6	26.6	25.7	27.0	27.3	28.1	26.3
Snout length	10.0	8.1	9.6	8.5	8.8	8.7	8.9	8.0
Maxillary length	10.2	8.9	9.5	9.2	9.3	8.3	10.2	9.4
Eye diameter	7.5	7.1	7.3	7.8	7.6	8.5	8.7	8.0
Bony interorbital width	10.7	10.0	10.3	10.1	10.3	10.5	10.1	10.6
Depth of caudal peduncle	11.9	10.7	11.1	10.3	11.2	10.7	10.1	10.4
Length of caudal peduncle	17.7	18.3	15.8	17.9	17.8	19.2	16.9	18.8
Predorsal distance	50.3	50.9	50.4	50.8	50.9	50.2	50.9	49.9
Preanal distance	49.1	49.2	50.4	50.6	47.7	49.3	52.9	49.9
Prepelvic distance	37.8	36.6	39.7	38.3	35.9	37.1	40.0	40.2
2nd dorsal-fin base	25.8	21.7	23.8	22.6	24.7	23.8	21.8	20.2
Anal fin base	41.3	38.5	40.2	36.3	41.7	38.9	35.1	34.7
Pectoral-fin length	18.1	18.2	18.5	18.6	17.7	18.6	18.8	19.5
Pelvic fin-length	15.6	15.9	15.2	15.2	16.2	14.6	13.9	14.7
Longest ray 1st dorsal fin	16.2	12.0	11.1	11.3	14.5	14.8	11.6	11.6
Longest ray 2nd dorsal fin	13.1	12.3	11.1	10.9	11.8	10.7	11.4	12.3
Longest anal ray	18.2	13.2	13.3	13.0	14.9	13.1	12.7	13.7
Caudal-fin length	21.6	19.9	19.9	16.8	22.7	22.3	19.5	23.4
Caudal concavity	7.4	8.5	4.6	5.3	6.9	8.5	5.9	7.7

small scales basally on caudal fin and triangular scale patch medially between base of pelvic fins; predorsal scales extending forward to posterior half of interorbital space; preopercle with three scale rows between its posterior angle and eye.

Predorsal length 2.0 (1.9-2.0) in SL; preanal length 2.0 (1.9-2.1) in SL; prepelvic length 2.6 (2.5-2.8) in SL; length of second dorsal-fin base 3.9 (4.0-4.9) in SL; length of anal-fin base 2.4 (2.4-2.9) in SL.

First dorsal-fin origin about level with to slightly behind anal-fin origin; longest spine (usually third) of first dorsal fin 1.7 (1.8-2.5) in HL, its depressed tip reaching spine of second dorsal fin in females and reaching to about base of second soft ray in mature males; longest rays (middle in both sexes) of second dorsal fin 2.1 (2.1-2.6) in HL, depressed posterior rays extending about one half of caudal peduncle in females and two-thirds to three-fourths length of caudal peduncle in mature males;

longest (middle in both sexes) anal rays 1.5 (1.8-2.2) in HL; pelvic-fin tips when depressed reaching to base of second or third soft anal-fin ray in mature males and females, but falling well short of this point in immature fish; length of pelvic fins 1.7 (1.6-2.0) in HL; length of pectoral fins 1.5 (1.3-1.5) in HL; length of caudal fin 1.3 (1.1-1.5) in HL; caudal-fin moderately forked, caudal concavity 3.7 (3.0-5.8) in HL.

Colour of male holotype in life (Fig. 2): blue grey with broad red scale margins, imparting overall rich red appearance over most of body; head mainly grey blue except light greenish dorsally, grading to whitish ventrally with reddish chin; dorsal anal, and pelvic-fins dark brown to blackish; second dorsal-fin with orange red outer margin; caudal-fin pinkish orange; pectoral-fins translucent.

Colour of holotype in alcohol (Fig. 3): after one month preservation largely orange red

except uppermost portion of body brown; head dark grey except cheek and chin whitish; relatively faint grey mid-lateral stripe on posterior third of body, most conspicuous on caudal peduncle; dorsal-fins reddish brown, second dorsal fin with reddish outer margin; anal and pelvic-fins black; caudal-fin pale orange; pectoral-fins translucent whitish. The 69.6 mm SL male paratype is generally similar except the reddish hue has faded and the overall colouration is similar to that described for the female below with the exception of the mid-lateral blackish stripe, which extends forward to the upper margin of the opercle, although it is relatively inconspicuous on the anterior half of the body.

Colour of adult female in alcohol

(Fig. 4): brown on upper half of body, grading to whitish ventrally; broad (about two scale rows wide), mid-lateral black stripe on posterior half of body; dorsal, anal, and pelvic-fins blackish, except narrow white outer margin on second dorsal fin; opercle silvery grey with broad blackish area on uppermost portion; cheek brown; caudal and pectoral-fins translucent whitish, caudal with dusky grey rays on basal half. Small juveniles 15.1-27.4 mm SL, are either entirely whitish or pale grey on the dorsal half of the body and white on the lower half with a dark mid-lateral stripe that is vivid on the posterior one-third of the body (including caudal peduncle), but faint and inconspicuous on the anterior two-thirds.



Fig. 3. *Melanotaenia sneideri*, preserved male, holotype, 80,1 mm SL. Photo by G. R. Allen.



Fig. 4. *Melanotaenia sneideri*, preserved female, paratype (WAM P.33872-001), 79.4 mm SL. Photo by G. R. Allen.

Table II. Summary of dorsal, anal, and pectoral-fin ray, gill-raker, cheek-scale, and circumpeduncular-scale (CPS) counts for *Melanotaenia sneideri*. Pectoral-ray counts were taken on both sides of each individual.

First Dorsal Fin Spines			Soft Dorsal Rays			Soft Anal Rays						
IV	V	VI	13	14		23	24	25	26	28		
2	13	1	14	2		3	8	2	2	1		
Pectoral Rays			Total Gill Rakers			CPS		Cheek Scales				
13	14	15	18	19	20	15	16	14	15	16	17	18
2	23	7	8	6	1	5	8	4	2	5	2	1

Sexual dimorphism: Adult males are easily distinguished on the basis of the overall red colouration, which is lacking in females. Similar to most *Melanotaenia*, males are also deeper bodied than females. Unlike most members of the genus, which have a more elongate, pointed shape posteriorly on the soft dorsal and anal fins of males, the male of *M. sneideri* has a more evenly rounded anal-fin profile,



Fig. 5. Habitat of *Melanotaenia sneideri* at type locality, showing origin of creek. Photo by R. Sneider.

with the longest rays in the middle portion of the fin. This feature is shared by several members of the genus from the Bird's Head Peninsula including *M. ammeri* Allen et al., 2008, *M. irianjaya* Allen, 1985, *M. kokasensis* Allen et al., 2008, and *M. parva* Allen, 1990. Allen et al. (2008) and Unmack et al. (2013) presented genetic evidence indicating these allopatric species are closely related, forming a distinct subclade referred to as the "Southern Bird's Head" group.

Distribution and habitat: The type locality and only known location is situated in the Kumawa Mountains at the southern extremity of the Bomberai Peninsula of West Papua Province, Indonesia (Fig. 1). The location, which lies at an altitude of 1,050 m, consists of a small ephemeral lake basin, approximately 1000 m in length and 600 m wide. During dry periods it consists of small creek that emerges from limestone rocks (Fig. 5) on the edge of the basin and flows for 500-600 m before draining underground. The maximum width of this remarkably clear creek varies from about 1-2 m, with a maximum depth of 30-50 cm and average depth of about 10-20 cm. During a preliminary visit in late early March 2013, most fish, particularly large adults were concentrated in rocky pools near the end of the creek, just before it disappeared into the ground. However, conditions had changed dramatically due to heavy rainfall during a second visit near the end of March. The creek was then inundated, forming a small lake (Fig. 6) and the fish was consequently more widely dispersed.

Etymology: The new species is named in honor of Richard Sneider, whom, together with Max Ammer planned and executed the 2013 Kumawa Mountains Expedition. Doctor Sneider discovered the species, photographed and filmed it, and, with Obed Holago, first collected the type specimens.



Fig. 6. Habitat of *Melanotaenia sneideri* at type locality, showing formation of small lake after heavy rains. Photo by R. Sneider.



Fig. 7. Aquarium photograph of *Melanotaenia parva*, males, approximately 50 mm SL, Lake Kurumoi, West Papua Province, Indonesia. Photo by N. Khardina.

Remarks: *Melanotaenia sneideri* is separable from all other members of the genus and most melanotaeniids on the basis of the unique male colouration. Only *Glossolepis incisus* Weber, 1907 from Lake Sentani, Papua Province (02°36.867'S, 140°33.743'E), possesses a substantial amount of red on the body of adult males. *Melanotaenia parva* from Lake Kurumoi, West Papua (2°09.528'S, 134°05.217'E) is also known to develop a bright red colour in captivity (Fig. 7), in contrast to the mainly bluish to mauve hue of wild-caught fish. The adult male of *M. sneideri* is also separable from all congeners by the dark brown to blackish colour of the dorsal, anal, and pelvic fins. The maximum body depth (at least 42.3% of SL) attained by adult males further distinguishes it from most other *Melanotaenia* from the Bird's Head region, which generally have values less than 40%. Notable exceptions are *M. ajamarurensis* Allen & Cross, 1980, *M. angfa* Allen, 1990, *M. boesemani* Allen & Cross, 1980, *M. kamaka* Allen & Renyaan, 1996b, and *M. lakamora* Allen & Renyaan, 1996b. All of these species except *M. angfa* inhabit lacustrine environments. Although there are a few exceptions, lacustrine species of *Chilatherina*, *Glossolepis*, and *Melanotaenia*, generally have deeper bodied males than stream-dwelling congeners. The more slender shape of fish from lotic habitats is probably a hydro-dynamic adaptation to swift-flowing water. It is interesting to note that a deeper-bodied shape is frequently assumed in aquarium-bred specimens of lotic species compared to individuals of the same species in nature (personal observations).

Although the largest collected specimen of *M. sneideri* is 80.1 mm SL, the species attains a much larger size. One specimen, 110 mm SL was collected, but unfortunately discarded due to the lack of a sufficient-sized preservation container. This is one of the three largest known species from the Bird's Head Peninsula. Only *M. fasiensis* Kadarusman et al., 2010, (120 mm SL) and *M. angfa* (114 mm SL) are known to attain a larger size.

Other noteworthy features that further distinguish the new species from most *Melanotaenia* include the combination of 15-16 circumpeduncular scales and 18-20 total gill rakers on the first branchial arch, both values that are relatively high for the genus compared to counts of 11-14 and 13-18 respectively for most other species.

Comparative material (all from West Papua Province, Indonesia): *Melanotaenia ammeri* (all from Arguni Bay, 3°02.438'S, 133°52.844'E) –

MZB 16455, 82.2 mm SL (holotype); AMS I.44640-001, 4 specimens, 46.5-66.5 mm SL (paratypes); MZB 16456, 4 specimens, 55.9-71.5 mm SL (paratypes); USNM 391630, 5 specimens, 46.1-71.6 mm SL (paratypes); WAM P. 33011-001, 5 specimens: 53.8-73.5 mm SL (paratypes); *Melanotaenia irianjaya* – MZB 4952, 50.0 mm SL (holotype), Fruata, 2°58.980'S, 133°31.977'E, Bomberai Peninsula; WAM P. 27863-001, 12 specimens (paratypes), 20.0-51.0 mm SL, Fruata; WAM P.29955-001, 10 specimens, 26.8-64.6 mm SL, Kali Satu, 2°05.913'S, 133°30.930'E, Bintuni vicinity; WAM P.29960-001, 53 specimens, 29.9-78.1 mm SL, Kali Tujuh, 2°05.959'S, 133°29.988'E, Bintuni vicinity; *Melanotaenia kokasensis* (all from vicinity of Kokas, 2°44.185'S, 132°25.697'E) – MZB 16453, 56.5 mm SL (holotype); MZB 16454, 10 specimens, 27.2-52.9 mm SL (paratypes); USNM 391629, 7 specimens, 36.2-64.0 mm SL (paratypes); WAM P. 33010-001, 7 specimens: 40.7-68.5 mm SL (paratypes); *Melanotaenia parva* – WAM P.29970-001, 125 specimens (paratypes), 21.2-52.6 mm SL, Lake Kurumoi, 2°09.528'S, 134°05.217'E.

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