

Two new species of freshwater rainbowfishes (Melanotaeniidae) from Papua New Guinea

by Gerald R. ALLEN *

Compared to the neighbouring regions of the Indonesian Archipelago and southeast Asian mainland, the inland waters of New Guinea remain little explored. Aside from a flurry of collecting activity around the turn of the century, primarily by Dutch naturalists, relatively few expeditions have focused on the freshwater fauna of this extremely interesting island. During the past two years I have made two visits to the eastern half of New Guinea for the purpose of collecting rainbowfishes belonging to the family Melanotaeniidae. This group is comprised of about 40 species (Allen, in press) and also occurs in Australia, primarily the tropical portion. My recent trips to New Guinea resulted in the discovery of five new species, two of which are described herein. Further collecting activity in previously unsampled areas of New Guinea will no doubt yield additional new melanotaeniids. Perhaps the most interesting region is the western half of the island, Irian Jaya, which is Indonesian territory. It is my fondest dream to someday visit Irian Jaya, but at present the Indonesian government refuses entry to research scientists because of political instability in the region. The most recent collections there were made by scientists from the Rijksmuseum in Leiden (Netherlands) during 1954-55 prior to Indonesian occupation. Although their collections were small they contain much valuable material including three additional new rainbowfishes which I will soon describe.

I have deposited type specimens of the two new species of *Melanotaenia* at the following institutions : Australian Museum, Sydney (AMS) ; Museum National d'Histoire Naturelle, Paris (MNHN) ; Kanudi Fisheries Research Laboratory, Port Moresby, Papua New Guinea (PNG) ; Rijksmuseum van Natuurlijke Histoire, Leiden (RMNH) ; U.S. National Museum of Natural History, Washington, D.C. (USNM) ; Western Australian Museum, Perth (WAM) ; and Zoologisch Museum, Amsterdam (ZMA).

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 end 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 verticals, one passing through the base of the last dorsal ray and the other through the base of the middle caudal rays. Predorsal, pre-anal, 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 mid-line between the origin of the first dorsal fin and the interorbital. Preopercle scale counts refer to the total number of scales overlying the preopercle bone. Pectoral ray counts include the rudimentary lowermost rays.

Counts and measurements are summarised in Tables 1-4. Data in parentheses indicate the range for paratypes when differing from the holotype. Proportional measurements are presented as percentage of the standard length. These data are based on the holotypes and for *M. parkinsoni* 15 paratypes, 53-100 mm SL, and for *M. monticola* 18 paratypes, 54-75 mm SL, except for proportions pertaining to body depth.

PARKINSON'S RAINBOWFISH

Melanotaenia parkinsoni, new species

(Figures 1 and 2)

Holotype. WAM P26401-003, 98.2 mm SL, small tributary of Kemp Welsh River near Matairuka, Central Province, Papua New Guinea (approximately 9°53'S, 147°48'E), seine, G. Allen and A. Ivorika, 1 October 1978.

Paratypes (collected with holotype unless stated otherwise). AMS I.21299-001, 96.2 mm SL ; PNG unregistered, 2 specimens, 77.4 and 86.6 mm SL ; RMNH 28151, 2 specimens, 65.0 and 81.2 mm SL ; USNM 220906, 2 specimens, 52.6 and 92.1 mm SL ; WAM P26401-001, 7 specimens, 28.9-100.0 mm SL ; WAM P26402-001, 9 specimens, 25.5-80.2 mm SL, Ararabu Creek, 14 km west of Kemp Welsh River bridge on Rigo Road, Central Province, Papua New Guinea (approximately 9°50'S, 147°41'E), seine, G. Allen, 1 October 1978 ; WAM P26786-001, 9 specimens, 45.0-74.0 mm SL, small stream on Gurney Road about 3 km west of Alotau, Milne Bay Province, Papua New Guinea (approximately 10°20'S, 150°25'E), seine, B. Parkinson, March 1979 ; ZMA 115.401, 2 specimens 61.7 and 77.8 mm SL.

Description

Dorsal rays VI-I,10 (V or VI-I,9 to 12) ; anal rays I,20 (I,18 to 23) ; pectoral rays 14 (13 to 15) ; horizontal scale rows 10 (10 or 11) ; vertical scale rows 33 (32 to 37) ; predorsal scales 17 (14 to 18) ($\bar{x} = 16$, N = 20) ; preopercle scales 11 (9 to 12) ($\bar{x} = 11$, N = 20).

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Table 1
Proportional measurements of selected type specimens of *Melanotaenia parkinsoni*
(Expressed as a percentage of the standard length)

	Holotype WAM P26401-003	Paratypes				
		WAM P26401-001	WAM P26786-001	PNG unregistered	ZMA 115.401	RMNH 28151
Standard length (mm)	male	male	male	female	female	female
Depth	98.2	100.0	74.0	86.6	77.8	65.0
Width	34.6	38.6	36.5	30.4	30.5	29.2
Head length	14.3	15.0	14.9	14.0	13.6	13.5
Snout length	28.1	28.7	27.6	28.9	28.8	27.5
Orbit diameter	9.5	9.4	9.2	9.0	9.3	8.6
Bony interorbital width	7.6	7.3	8.1	7.6	7.6	8.6
Depth of caudal peduncle	11.7	11.3	10.0	11.7	11.7	10.3
Length of caudal peduncle	12.2	12.5	13.0	11.5	11.6	11.4
Snout to 1st dorsal fin origin	14.6	15.0	13.5	17.6	18.6	15.4
Snout to anal fin origin	47.4	48.7	47.3	48.3	48.7	49.1
Snout to pelvic fin origin	47.8	49.7	50.5	50.8	48.8	50.3
Length of 2nd dorsal fin base	37.0	37.1	37.8	39.8	37.9	36.9
Length of anal fin base	25.5	24.0	27.0	20.8	18.4	19.1
Length of anal fin base	44.3	40.8	43.6	37.3	36.6	36.2
Length of pectoral fin	44.3	15.7*	18.2	16.4	15.8	16.0
Length of pelvic fin	17.0	21.0	18.9	14.8	14.8	16.0
Longest ray of 1st dorsal fin	20.9	19.1	21.6	13.9	13.4	13.1
Longest ray of 2nd dorsal fin	18.0	24.0	23.5	11.5	12.2	12.9
Longest anal ray	21.2	21.4	25.0	11.3*	13.1	12.0
Length of caudal fin	19.9*	20.9*	25.9	15.4*	19.5*	25.2

* damaged

Greatest body depth 34.6, greatest depth of paratypes by sex and size class as follows : **males** - (a) 39.49 mm SL, 29.2-34.9 ($\bar{x} = 32.1$, N = 5), (b) 50.69 mm SL, 33.8 (N = 1), (c) 70 + mm SL, 30.5-39.0 ($\bar{x} = 35.2$, N = 6) ; **females** - (a) 41.45 mm SL, 31.1-31.7 ($\bar{x} = 31.4$, N = 2), (b) 50-65 mm SL, 29.0-32.1 ($\bar{x} = 30.7$, N = 6), (c) 70 + mm SL, 27.2-34.5 ($\bar{x} = 31.9$, N = 4) ; head length 28.1 (27.3-28.9) ; snout length 9.5 (8.4-9.6) ; eye diameter 7.6 (7.3-8.7) ; interorbital width 11.7 (10.0-11.7) ; caudal peduncle depth 12.2 (11.4-13.0) ; caudal peduncle length 14.6 (13.5-18.6) ; predorsal distance 47.4 (47.3-50.8) ; preanal distance 47.8 (47.5-51.1) ; prepelvic distance 37.0 (33.2-39.9).

Jaws about equal, oblique, premaxilla with an abrupt bend between the anterior horizontal portion and lateral part ; maxilla ends well in front of vertical through front border of eye ; lips thin ; teeth conical with slightly curved tips, those in outer row stouter ; teeth in upper jaw arranged in 2 to 4 irregular rows anteriorly, reduced to a single row posteriorly, outer row teeth exposed when mouth is closed ; about 56-60 teeth in outer row of upper jaw ; teeth in lower jaw in 5 to 7 irregular rows anteriorly, tapering to 1 or 2 rows posteriorly, outer row consisting of about 12 relatively stout teeth on each side of symphysis ; several rows of small, conical teeth on vomer ; palatines with a narrow band of similar teeth arranged in a single row.

Scales relatively large, arranged in regular horizontal rows ; most of body scales with slightly crenulate margins ; predorsal scales extending to posterior portion of interorbital ; preopercle scale rows from posterior angle to edge of eye 2.

First dorsal fin originates about opposite origin of anal fin ; first dorsal spine 11.3 (10.6-13.8), its length is slightly

(in females) to distinctly (in males) shorter than longest (usually 3rd or 4th) spine ; longest spine of first dorsal fin 20.9 (12.0-21.6), its tip reaching base of spine at beginning of second dorsal fin in females and 2nd or 3rd soft ray in mature males when depressed. Spine of second dorsal fin 10.5 (9.6-14.6) ; longest (about 2nd to 5th in females, last or penultimate in males) soft ray of second dorsal fin 18.0 (11.5-24.0) ; depressed posterior rays of second dorsal fin reaches about 1/2 to 2/3 length of caudal peduncle in females and well beyond caudal fin base in mature males. Anal fin spine 8.0 (7.8-10.4) ; longest (4th to 12th in females, 3rd from last in males) anal rays 21.2 (10.6-25.0). Soft dorsal and anal fin rectangular in outline, the posterior rays somewhat elongate and pointed in males. Pelvic fin tips when depressed extending to about base of 2nd soft anal ray in both mature males and females ; length of pelvic fin 16.7 (14.8-21.0). Pectoral fins pointed, its length 14.3 (15.8-18.8). Caudal fin moderately forked, its length 19.9 (23.2-25.9).

Table 2
Fin ray counts of type specimens
of *Melanotaenia parkinsoni*

1st Dorsal fin spines		2nd Dorsal fin soft rays			
V	VI	9	10	11	12
7	13	2	3	10	5

Anal fin soft rays						Pectoral fin rays		
18	19	20	21	22	23	13	14	15
1	1	9	4	4	1	3	15	2

Colour in life : males overall bluish-grey, silvery white on breast, abdomen and lower part of head ; narrow orange longitudinal stripes on sides, one between each scale row ; dorsal, anal, caudal, and pelvic fins bright orange on basal 1/2 to 2/3 and dusky grey on distal portion ; pectoral fins mainly translucent. Females similar in overall colouration except longitudinal stripes on sides less vivid and fins only faintly orange.

Colour in alcohol : generally dark brown on upper half of body grading to tan or whitish, sometimes silvery on lower half ; fins dusky ; some paratypes very faded, overall pale yellow or light tan with little contrast between upper and lower portions of side and with fins only slightly dusky.

Remarks

Melanotaenia parkinsoni is most closely allied to *M. splendida rubrostriata* Ramsay and Ogilby (1886) from southern New Guinea (fig. 3). *Melanotaenia splendida* is the most widespread member of the family being represented by five subspecies which range across northern Australia and one in southern New Guinea which is known from the central south coastal region between the Digul River of Irian Jaya and the Fly River System of Papua New Guinea (although further collecting will probably expand the range in both directions). *Melanotaenia parkinsoni* differs from *M. splendida rubrostriata* primarily with regards to colour pattern (compare figs. 1-4) and in usually possessing an additional horizontal scale row (usually 10 rows vs. 11 in *M. splendida rubrostriata*... 26 specimens counted). Furthermore, *M. parkinsoni* generally has more scales covering the cheek region (avg. 11, N = 20 ; compared with avg. 15, N = 26 for *M. splendida rubrostriata*). The two species are among the largest members of the family with adults exceeding 100 mm SL, however adult males of *M. parkinsoni* do not develop the exceedingly deep body characteristic of the males of *M. splendida rubrostriata* (fig. 3).

Melanotaenia parkinsoni is known thus far from only two small tributaries of the Kemp Welsh River, about 75 km southeast of Port Moresby, and from the vicinity of Alotau, lying near the eastern extremity of New Guinea, nearly 300 km to the east of the Kemp Welsh collecting sites. The species probably occurs in intermediate areas along the south coast. Most of the types were taken from a small stream which was mainly dry except for occasional isolated pools. The stream was situated in a coastal grass plain habitat with semi-rainforest conditions immediately adjacent to the creek. The specimens were netted from a pool measuring about 5 x 12 metres with a maximum depth of 2 metres. The pool was littered with numerous logs and branches, and the water was very turbid. A water temperature of 30 °C and pH of 7.8 were recorded.

The gut contents of several paratypes indicate a diet composed primarily of tiny insects. The smallest ripe female among the type series is 45 mm SL.

This species is well suited for life in captivity. The author has maintained several specimens collected with the holotype for more than one year in laboratory aquaria in Perth, Australia. Two female specimens have increased their standard length from 41 mm to 80 mm during a 12 month period. The fish have been maintained on a diet consisting of 2-3 feedings daily of commercial flake food and a mixture of finely chopped, fresh frozen beef, shrimp, and fish. Spawning occurs regularly if a fine «spawning grass» such as cured Spanish Moss (*Tillandsia fontinalis gracilis*, *Nitella*, etc.) is provided. The «grass» should be removed to a small nursery aquarium after spawning occurs otherwise the adults will eat both eggs and fry. Hatching occurs in about 8-9 days at 27 °C. The young grow at a rapid rate, attaining sexual maturity in the first year.

The species is named *parkinsoni* in honour of Mr. Brian Parkinson for his generous assistance during my trips to Papua New Guinea.

MOUNTAIN RAINBOWFISH

Melanotaenia monticola, new species

(Figure 5)

Holotype. WAM P26741-001, male, 67.8 mm SL, Omei Creek, about 200 m on Mendi side of Ka River bridge on Mendi-Nipa road, Southern Highlands Province, Papua New Guinea (approximately 6°14'S, 143°38'E), seine, G. Allen and B. Parkinson, 20 September 1979.

Paratypes (collected with holotype). AMS I.21300-001, 10 specimens, 23.0-55.2 mm SL ; MNHN 1979-672, 3 specimens, 19.8-53.9 mm SL ; PNG unregistered, 5 specimens, 51.5-62.0 mm SL ; RMNH 28150, 5 specimens, 22.8-61.2 mm SL ; USNM 220908, 6 specimens, 25.9-59.1 mm SL ; WAM P26741-002, 20 specimens, 20.7-74.5 mm SL ; ZMA 115.402, 7 specimens, 17.0-58.4 mm SL.

Description

Dorsal rays IV-1,16 (IV or V-1,15 to 17) ; anal rays I,18 (I,18 to 21) ; pectoral rays 15 (13 to 16) ; horizontal scale rows 11 (11 or 12) ; vertical scale rows 35 (34 to 37) ; predorsal scales 15 (13 to 16) (\bar{x} = 14, N = 38) ; preopercle scales 15 (12 to 17) (\bar{x} = 14, N = 38).

Greatest body depth 41.7, greatest depth of paratypes by sex and size class as follows : **males** - (a) under 50.0 mm SL, 31.3 (N = 1), (b) 50-69 mm SL, 34.0-41.2 (\bar{x} = 36.4, N = 11) ; **females** - (a) 31-49 mm SL, 24.2-32.6 (\bar{x} = 29.6, N = 10), (b) 50-62 mm SL, 28.1-32.7 (\bar{x} = 31.1, N = 11), (c) 70+ mm SL, 32.4 (N = 1) ; head length 28.3 (26.9-29.0) ; snout length 11.1 (8.5-11.2) ; eye diameter 8.3 (7.5-9.3) ; interorbital width 9.9 (9.6-10.2) ; caudal peduncle depth 13.7 (11.5-13.8) ; caudal peduncle length 16.5 (16.5-18.9).

Jaws about equal, oblique, premaxilla with an abrupt bend between the anterior horizontal portion and lateral part ; maxilla ends opposite front border of eye ; teeth depressible, conical with slightly curved tips, those in outer row slightly stouter ; band of teeth in upper jaw arranged in several irregular rows anteriorly, reduced to 1-2 rows posteriorly, teeth extending outside of mouth on lateral portion of premaxillary and lower one-third of anterior portion of upper lip ; teeth in lower jaw in 2 to 5 irregular rows ; edentulous space at median symphysis ; several rows of small, conical teeth on vomer ; palatines with a narrow band of similar teeth arranged in a single row.

Scales relatively large, arranged in regular horizontal rows ; most of body scales cycloid or with slightly crenulate margins ; predorsal scales extending to posterior portion of interorbital ; preopercle scale rows from posterior angle to edge of eye 2 to 3.

First dorsal fin originates about opposite anus, well before origin of anal fin ; first dorsal spine 13.3 (8.3-13.4), its length is slightly (in females) to distinctly (in mature males) shorter than longest (usually 2nd or 3rd) spine ; longest spine of first dorsal fin 8.4 (8.3-11.6), its tip reaching to about base of 1st soft ray of second dorsal fin in females and 2nd or 3rd soft ray in mature males when depressed. Spine of second dorsal fin 5.9 (6.0-10.5) ; longest (3rd-8th ray in females, terminal ray in males) soft ray of second dorsal fin 12.5 (9.6-13.2) ; depressed posterior rays of second dorsal fin extends over anterior one-third of caudal peduncle in females and over one-half to nearly entire caudal peduncle in mature males. Anal fin spine 5.5 (5.3-7.5) ; longest (4th to 15th) anal rays 10.8 (10.4-13.0). Soft dorsal and anal fin rectangular in outline, the posterior rays somewhat elongate and pointed in males. Pelvic fin tips when depressed not quite reaching base of anal spine in females and extending to base of about 2nd or 3rd soft anal ray in mature males ; length of pelvic fin 14.7 (14.3-18.6). Pectoral fin rounded, its length 17.3 (16.0-18.6). Caudal fin moderately forked, its length 19.2 (20.5-24.9) in head.



Fig. 1. - *Melanotaenia parkinsoni* (approximately 100 mm SL), male, photographed in an aquarium.
Melanotaenia parkinsoni (approximativement 100 mm LS), mâle, photographié en aquarium.



Fig. 2. - *Melanotaenia parkinsoni*, male, holotype, 98.2 mm SL.
Melanotaenia parkinsoni, mâle, holotype, 98,2 mm LS.

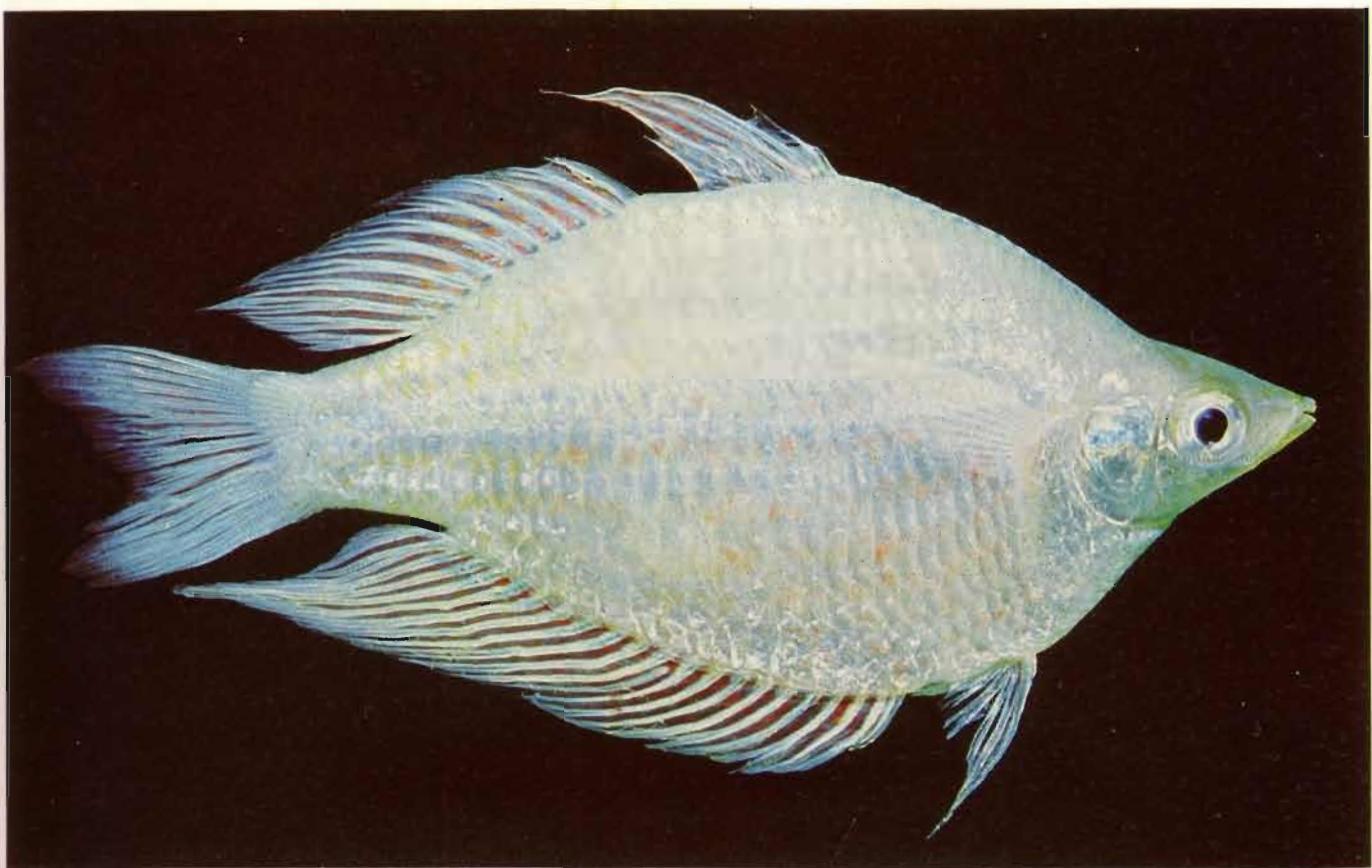


Fig. 3. - *Melanotaenia splendida rubrostriata*, male, 94 mm SL, Daru, Papua New Guinea. This pale colouration is typical for specimens from very muddy water.

Melanotaenia splendida rubrostriata, mâle, 94 mm LS, Daru, Nouvelle-Guinée Papouasie. Cette couleur pâle est typique des spécimens provenant d'une eau très trouble.

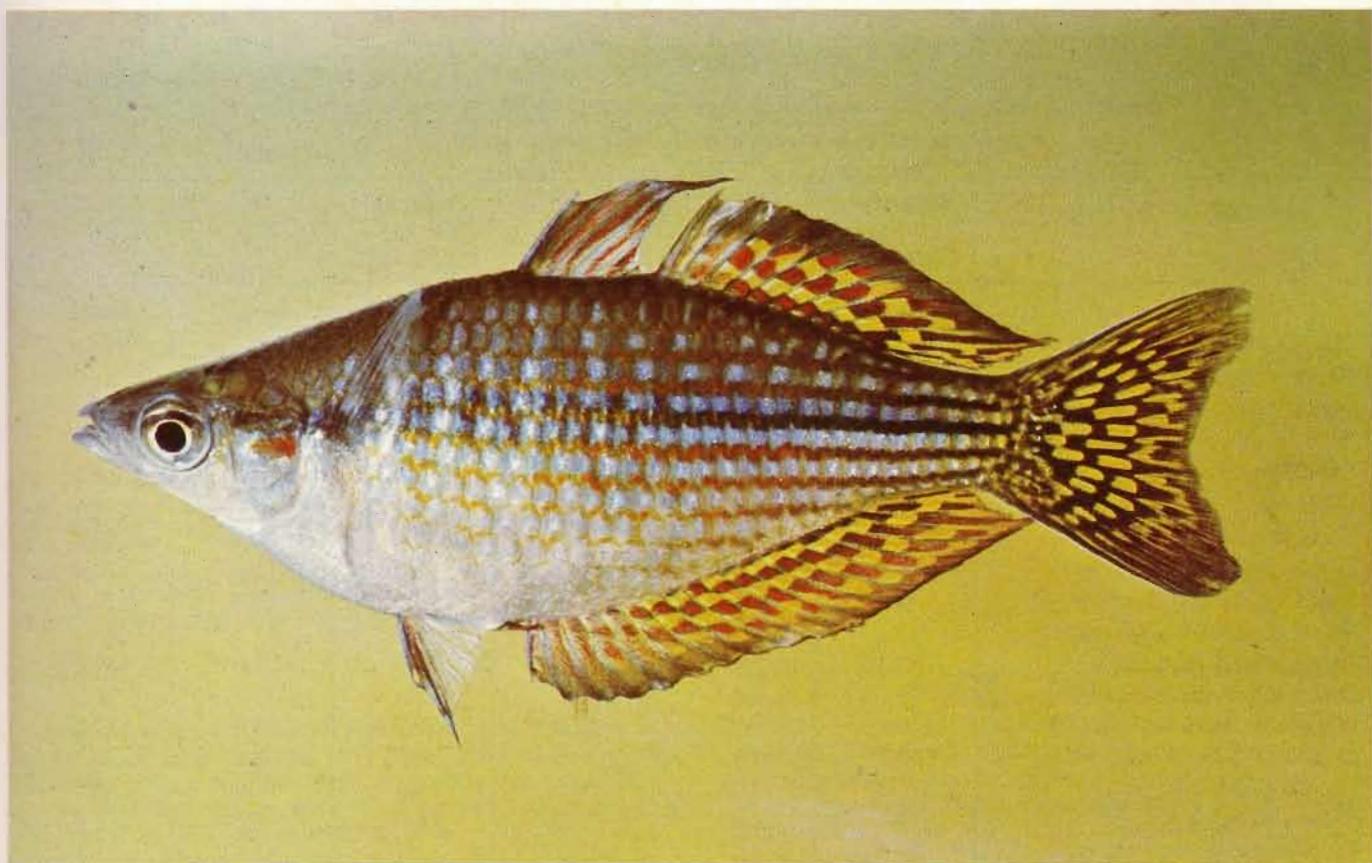


Fig. 4. - *Melanotaenia splendida inornata* Castelnau, male, 63 mm SL, Northern Territory, Australia. Specimens of *M. splendida rubrostriata* from the Merauke District of Irian Jaya are similar in appearance.

Melanotaenia splendida inornata Castelnau, mâle, 63 mm LS, Territoire du Nord, Australie. Les spécimens de *M. splendida rubrostriata* du District Merauke de Irian Jaya sont d'aspect semblable.



Fig. 5. - *Melanotaenia monticola*, male, holotype (upper), 67.8 mm SL, and female, paratype, 51 mm SL.
Melanotaenia monticola, mâle, holotype (en haut), 67,8 mm LS, et femelle, paratype, 51 mm LS.

Table 3
 Proportional measurements of selected type specimens of *Melanotaenia monticola*
 (Expressed as a percentage of the standard length)

	Holotype WAM P26741-001	Paratypes WAM P26741-002				
	male	male	male	female	female	female
Standard length (mm)	67.8	62.8	56.9	74.5	62.5	50.8
Depth	41.7	38.5	35.9	32.5	32.5	31.7
Width	15.9	15.9	16.3	16.1	16.0	15.4
Head length	28.3	27.9	27.6	27.7	28.0	27.2
Snout length	11.1	9.2	9.0	8.9	8.8	8.5
Orbit diameter	8.3	7.7	8.8	7.5	8.8	8.5
Bony interorbital width	9.9	10.0	9.7	9.9	10.1	10.2
Depth of caudal peduncle	13.7	13.7	12.8	11.5	11.8	12.0
Length of caudal peduncle	16.5	18.2	18.1	18.1	17.0	16.7
Snout to 1st dorsal fin origin	43.2	43.0	43.1	42.0	44.5	44.5
Snout to anal fin origin	51.4	50.6	50.1	53.0	53.8	51.8
Snout to pelvic fin origin	41.2	38.7	38.6	38.5	40.2	38.2
Length of 2nd dorsal fin base	35.1	36.0	31.6	30.9	31.4	29.5
Length of anal fin base	39.1	37.6	38.5	33.2	32.2	33.9
Length of pectoral fin	17.3	18.6	16.5	16.1	16.0	16.7
Length of pelvic fin	14.7	15.9	16.0	14.4	13.8	13.4
Longest ray of 1st dorsal fin	13.3	16.9	19.7	12.1	13.6	11.8
Longest ray of 2nd dorsal fin	12.5	11.1	11.6	9.7	9.6	11.4
Longest anal ray	10.8	11.3	11.6	10.5	11.2	13.0
Length of caudal fin	19.2	23.1	21.1	20.7	21.6	21.5

Table 4

**Fin ray counts of type specimens
of *Melanotaenia monticola***

1st Dorsal fin spines		2nd Dorsal fin soft rays		
IV	V	15	16	17
18	20	10	20	8
Anal fin soft rays			Pectoral fin rays	
18	19	20	21	13 14 15 16
4	11	18	5	1 19 16 2

Colour in life : dark purple-brown on dorsal one-fourth of head and sides grading to silvery white on breast, abdomen, and lower part of head, and golden yellow on remainder of sides ; side of abdomen with lilac or mauve suffusion; prominent black mid-lateral stripe extending from eye to caudal fin base, narrowest and most diffuse in area immediately posterior to pectoral fin ; most of scales on lower two-thirds of sides with yellow margins ; dorsal and caudal fin smoky grey ; anal fin mainly translucent with yellow at base of anteriormost rays ; pelvic fins white ; pectoral fins translucent. Females similar to males except yellow and lilac hues slightly less intense.

Colour in alcohol : brown above and dusky white on lower half, the two colours separated by black mid-lateral band ; scales on lower half of body with dusky centres ; fins dusky to translucent. Several paratypes which were maintained in an aquarium for several days before preservation are much paler in colour ; the upper sides are light brown or tan and lower sides white with a dusky grey mid-lateral stripe.



Fig. 7. - Map of New Guinea. The arrow on the left indicates the type locality of *Melanotaenia monticola*. The two arrows on the right indicate the collection sites (Matairuka and Alotau) for types of *M. parkinsoni*.

Carte de Nouvelle-Guinée. La flèche à gauche indique la localité typique de *Melanotaenia monticola*. Les 2 flèches à droite indiquent les lieux de récolte (Matairuka et Alotau) des types de *M. parkinsoni*.

Remarks

Melanotaenia monticola appears to be most closely related to *M. lacustris* Munro (1964) from Lake Kutubu in the Kikori River system of southern Papua New Guinea. Both species possess a similar alcohol colouration although the mid-lateral stripe of *M. monticola* tends to be darker and narrower (mainly a single scale row in width compared to two scale rows in *M. lacustris*). In addition, both have the origin of the first dorsal fin noticeably in advance of the vertical through the origin of the anal fin. However, *M. monticola* differs from *M. lacustris* by having higher soft



Fig. 6. - The author collects specimens of *Melanotaenia monticola* at the type locality near Mendi, Papua New Guinea. B. Parkinson. L'auteur récolte des spécimens de *Melanotaenia monticola* dans la localité typique près de Mendi, Nouvelle-Guinée Papouasie.

dorsal and anal ray counts. A soft ray count of 15-17 for the second dorsal count is found in *M. monticola* compared with 11-14 rays for *M. lacustris* (22 specimens from PNG examined). Although there is an overlap in the range (17-21) of soft anal ray counts between the two species, the largest portion of *M. monticola* specimens possess 20 rays compared with 18 for *M. lacustris*. Moreover, males of *M. lacustris* appear to attain a greater standard length (92 mm vs. about 70 mm) and greater depth (2.1 in SL vs. 2.4-2.8). These differences are probably influenced by their respective habitat conditions, i.e., lacustrine for *lacustris* and fluvial for *monticola*.

Melanotaenia monticola is known thus far only from the Ka or Lai River drainage, which is situated in the Southern Highlands of Papua New Guinea at the headwaters of the Purari River system. The types were collected from a small (about 2-3 m wide x 0.1-0.3 m depth), slow flowing tributary of the Ka River. The presence of this species in the main river is doubtful because of the steep gradient and resultant continuity of «white-water» rapids. Water turbidity at the type locality was minimal and the fishes were easily observed prior to capture. This species was the only fish seen or collected in the stream, although gudgeons (Eleotridae) probably occur there. The elevation of the type locality is approximately 1600 metres (5,248 feet). A water temperature of 18.6 °C and pH of 7.8 were recorded at the time of capture. This is the coldest water from which the author has collected rainbowfishes.

The gut contents of several paratypes indicate a diet consisting primarily of aquatic insect larvae and minute crustaceans. Most of the female paratypes contained ripe eggs; the smallest ripe female was 42 mm SL.

This species is probably not suited for normal aquarium conditions because of its preference for cooler temperatures (18-20 °C are recommended). The author attempted to maintain several live specimens for transport to Australia, but all died within two days of their capture in spite of frequent water changes.

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References

The species is named *monticola* (Latin : «mountain-dweller») with reference to the mountainous terrain of the type locality.

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RÉSUMÉ

Deux nouvelles espèces de Poissons arc-en-ciel d'eau douce (*Melanotheniidae*) de Nouvelle-Guinée Papouasie

Comparées à celles des régions voisines de l'Archipel indonésien et du sud-est du continent asiatique, les eaux intérieures de la Nouvelle-Guinée demeurent peu explorées. À part une fièvre de collecte, vers le début du siècle, principalement de la part de naturalistes hollandais, relativement peu d'expéditions ont été centrées sur la faune des eaux douces de cette île extrêmement intéressante. Au cours des deux dernières années, j'ai visité à deux reprises la moitié orientale de la Nouvelle-Guinée, dans le but de récolter des représentants des Melanotheniidae, famille qui renferme environ 40 espèces et se trouve aussi en Australie, surtout dans la portion tropicale. Mes récentes tournées ont permis la découverte de 5 espèces nouvelles dont 2 sont décrites ici. De futures récoltes dans des régions non encore prospectées de la Nouvelle-Guinée, fourniront, sans aucun doute, d'autres Mélanoténidiés inédits. La région la plus intéressante est peut-être la moitié occidentale de l'île, Irian Jaya, qui est un territoire indonésien. Je rêve de la visiter un jour, mais à présent les autorités indonésiennes en refusent l'entrée aux scientifiques, en raison de l'instabilité politique du pays. Les plus récentes récoltes sont dues à des chercheurs du Rijksmuseum de Leiden (Pays-Bas), en 1954-55, avant l'occupation par l'Indonésie. Quoique leurs collections soient limitées, elles renferment beaucoup de choses intéressantes, parmi lesquelles 3 nouvelles espèces de Poissons arc-en-ciel que je décrirai bientôt.

Poisson arc-en-ciel de Parkinson

Melanotaenia parkinsoni n. sp.

Matériel. Holotype et 15 paratypes de 53 à 100 mm LS.

Localité typique : petit affluent de Kemp Welsh River, près de Matairuka.

Description. Se reporter au texte anglais et, pour les couleurs, aux figures 1 et 2.

Remarques. Très proche de *M. splendida rubrostriata* Ramsay et Ogilby (1886), de Nouvelle-Guinée méridionale (fig. 3). *M. splendida* étant l'espèce la plus largement répandue de la famille, avec 5 sous-espèces en Australie septentrionale et une en Nouvelle-Guinée méridionale. Elles se distinguent en premier lieu par le patron de coloration.

Ce sont parmi les plus grandes espèces de la famille, les adultes dépassant 100 mm LS, mais les mâles de *parkinsoni* n'acquièrent pas le corps excessivement haut, caractéristique de ceux de *splendida rubrostriata*.

Aquariologie.

L'espèce convient bien à l'aquarium et l'auteur en a conservé pendant plus d'un an. 2 femelles sont passées de 41 à 80 mm LS en 12 mois, nourries 2 à 3 fois par jour de flocons et d'un fin hachis de viande de Bœuf, de Crevettes et de Poisson. La ponte a lieu régulièrement dans des végétaux fins (*Tillandsia fontinalis gracilis*, *Nitella* etc.). Les végétaux doivent être retirés après la ponte, car les adultes mangent œufs et alevins. Eclosion après 8-9 jours à 27 °C. Croissance rapide, maturité sexuelle dans la première année.

Poisson arc-en-ciel de montagne

Melanotaenia monticola n. sp.

Matériel. Holotype et 18 paratypes de 54 à 57 mm LS.

Localité typique : Omei Creek, petit affluent de Ka River, à 200 m environ, vers Mendi, du pont de la route Mendi-Nipa sur Ka River.

Description. Se reporter au texte anglais et, pour les couleurs, à la figure 5.

Remarques. Très proche, semble-t-il, de *M. lacustris* Munro, 1964, du Lac Kutubu, dans le système de Kikori River, en Nouvelle-Guinée papoue méridionale (patrons de coloration voisins, position avancée de la 1ère dorsale). Les espèces diffèrent par les formules de la dorsale molle et de l'anale, plus élevées chez *monticola*, et par leur biotope lacustre ou fluviatile.

Aquariologie.

L'espèce n'est sans doute pas indiquée dans les conditions ordinaires de l'aquarium, en raison de ses préférences pour les eaux fraîches (18-20 °C). L'auteur a tenté de conserver plusieurs spécimens vivants pour les rapporter en Australie, mais tous sont morts dans les 2 jours suivant la capture, malgré de fréquents changements d'eau.