

VI. *Report on the Freshwater Fishes collected by the British Ornithologists' Union Expedition and the Wollaston Expedition in Dutch New Guinea.* By C. TATE REGAN, M.A., F.Z.S.

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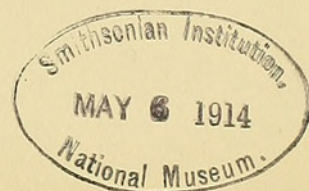
[PLATE XXXI.\*]

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THE freshwater fishes of Dutch New Guinea have been so extensively collected by the Dutch expeditions, and so thoroughly worked out by Professor Max Weber, that it is not surprising that the collections here reported on include no new species. However, they include examples of two species of the Melanotæniine Atherinidæ, and the difficulty of determining these has led me to attempt a revision of the group; this work has been greatly facilitated by Professor Max Weber, who has most kindly sent me co-types, or authenticated examples, of nearly all the species described by him.

The only other species that calls for special mention is *Symbranchus bengalensis*; in reply to Professor Weber's contention that this was a fresh-water fish, and an Indian element in the fauna of Celebes, I had pointed out that it entered brackish-water and probably the sea also, since it was known from Western Australia\*; its occurrence in New Guinea considerably extends its known range and strengthens this conclusion.

\* Rep. Brit. Assoc. 1911, p. 435.





## 1. FISHES FROM THE MIMIKA RIVER.

(B. O. U. Collection.)

*Clupea platygaster* Günth.  
„ *argyrotænia* Bleek.  
*Engraulis scratchleyi* Rams. & Ogilb.  
*Copidoglanis novæ-guinæ* M. Web.  
*Belone krefftii* Günth.  
„ *strongylurus* Bleek.  
*Therapon habbema* M. Web.  
*Apogon sandei* M. Web.  
*Caranx carangus* Bloch.  
*Sciæna belangeri* Cuv. & Val.  
*Toxotes chatareus* Ham. Buch.  
*Mugil troscheli* Bleek.  
*Mugil cunnesius* Cuv. & Val.  
*Atherinichthys nouhuysii* M. Web.  
*Rhombosoma novæ-guinæ* Rams. & Ogilb.  
*Eleotris mogurnda* Richards.  
*Eleotris fimbriata* M. Web.  
*Gobius celebius* Cuv. & Val.  
*Periophthalmus schlosseri* Pall.  
*Synaptura villosa* M. Web.

## 2. FISHES FROM THE UTAKWA AND SETAKWA RIVERS.

(Wollaston Collection.)

*Ambassis reticulatus* M. Web. Setakwa R.  
*Anisocentrus rubrostriatus* Rams. & Ogilb. Setakwa R.  
*Gobius giuris* Ham. Buch. Utakwa R.

## 3. A REVISION OF THE MELANOTENINE ATHERINIDÆ.

In the rivers of Australia and New Guinea are found some Atherinid fishes which have the body more strongly compressed and the anal fin more elongate than the more typical members of the family; most of them have the peculiarity that the spinous dorsal fin is formed of a stout and pungent spine followed by several (3 to 6) slender and flexible ones, which are prolonged into filaments in the males; the latter also have the posterior rays of the soft dorsal and anal produced. During growth the form of the body changes considerably; it is usually much deeper in the adult than in the young and also less regular, the profile of the anterior part of the back tending to become concave, that of the thorax and abdomen convex.

In their osteology these fishes do not differ in any way from the other Atherinidæ,



and I do not think them worthy to rank as a subfamily, much less as a family, as some authorities have proposed. After the exclusion of *Pseudomugil*, a genus with four species from Australia and New Guinea that has usually been associated with them, but is probably much more nearly related to the Celebesian *Telmatherina*, *Melanotænia* and its allies form a natural group, as characterized above.

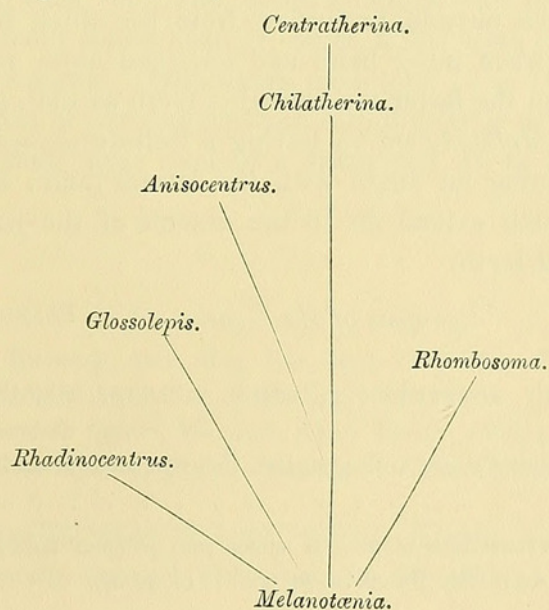
Certain zoogeographical generalizations have been supported by evidence derived from the supposed distribution of the genera and species; hence the importance of a systematic revision of the group.

As the result of the study of a large series of examples I have arrived at the conclusion that all the forms described from Australia under no less than seven generic and fourteen specific names belong to a single widely distributed and variable species, *Melanotænia nigrans* Richards, and this also includes four supposed species described in recent years from New Guinea and the Aru Islands.

From its wide range in Australia, from the north coast southwards to the Swan River, the Fincke River, the Murrumbidgee River, and Sydney, as well as from the fact that some of the records seem to indicate a marine habitat (*e. g.* Gulf of Carpentaria, Coast of Swan River), we may infer that the sea has aided in its distribution.

It may be noted that structurally this species is the prototype of the whole group, that it is the only species common to Australia and New Guinea, and that the other New Guinea species are all generically distinct from it; consequently this group of fishes furnishes no evidence as to the date or extent of a former land-connection between Australia and New Guinea.

There appear to be only nine well-established species, which may be arranged in seven genera; the probable derivation of the latter from a type similar to *Melanotænia* may be expressed diagrammatically:—





The principal changes in structure that call for the recognition of so many genera have been in the spinous dorsal fin, the scales, the gill-rakers, and the jaws and teeth.

As above mentioned, the spinous dorsal fin is usually formed of a stout and pungent spine followed by three to six slender and flexible ones; the only exceptions are *Rhadinocentrus*, with all the spines flexible, and *Centratherina*, with them all pungent\*.

In *Melanotænia* the scales are large, regularly arranged, with the edges entire or slightly crenulated; they are similar in structure and arrangement in all the other genera except *Glossolepis*, which has the scales smaller, irregularly arranged, and with the crenulations very pronounced, having the appearance of a series of tongue-like projections at the edge of each scale.

In *Melanotænia* the gill-rakers are of moderate length, and number 12 to 16 on the lower part of the anterior arch; all the other genera agree, except again *Glossolepis*, which has longer, finer, and more numerous gill-rakers, about 30 on the lower part of the anterior arch.

In *Melanotænia* the premaxillaries have a horizontal anterior expansion that forms an angle with the oblique lateral rami and fits an emargination of the transverse anterior part of the lower jaw; the teeth in the jaws are conical or villiform, in bands, with the outer series enlarged; there is a transverse band of similar teeth on the vomer, a few far back on the palatines, and a patch at the base of the tongue.

*Rhadinocentrus* and *Glossolepis* are similar, except that in the former the palate appears to be toothless, in the latter the teeth are rather stout and obtuse.

In *Anisocentrus* the præmaxillary expansion is reduced, the lower jaw is included, and its outer series of enlarged teeth is implanted horizontally and separated by an interspace from the inner band; there are no other differences from *Melanotænia*. *Chilatherina* and *Centratherina* are similar in mouth-structure, but in the upper jaw the teeth extend on to the outside, projecting from the thick lip, and in the lower there is no interspace between inner band and enlarged outer series; in the former genus the palatine teeth, in the latter the vomerine teeth as well, are lost.

*Rhombosoma* resembles *Melanotænia* in having a well-developed anterior expansion of the præmaxillaries forming an angle with the lateral rami; but the lower jaw is included, the bands of teeth extend on to the outside of the jaws, and there is no marginal series of enlarged teeth.

#### *Synopsis of the Genera.*

##### I. Jaws equal anteriorly.

A. Scales large, regularly arranged, with edges entire or slightly crenulated.

Spinous dorsal with the first spine stout and pungent, the rest slender and

flexible . . . . . 1. *Melanotænia*.

\* Another example of the reconversion of flexible spines into pungent ones is the recently described *Trematomus centronotus* (Regan, Ann. Mag. Nat. Hist. (8) xiii. 1914, p. 12).



- Spinous dorsal with all the rays slender and flexible . . . . . 2. *Rhadinocentrus*.  
 B. Scales smaller, irregular, with edges deeply crenulated . . . . . 3. *Glossolepis*.  
 II. Lower jaw included; mouth rather small, its cleft straight or but little curved; lower jaw with an outer series of enlarged teeth.  
 A. An interspace between inner band and outer series of teeth of lower jaw; no teeth, or but few, on outer side of upper jaw . . . . . 4. *Anisocentrus*.  
 B. No interspace between inner band and outer series of teeth in lower jaw; many teeth on outer side of upper jaw.  
 Spinous dorsal with first spine pungent, the rest flexible; vomer toothed . . . . . 5. *Chilatherina*.  
 Spinous dorsal with all the spines pungent; palate toothless . . . . . 6. *Centratherina*.  
 III. Lower jaw included; mouth larger, its cleft curved or angular, horizontal anteriorly and oblique posteriorly; bands of teeth extending on to outside of jaws; no outer series of enlarged teeth . . . . . 7. *Rhombosoma*.

## 1. MELANOTÆNIA Gill, 1862.

- Proc. Acad. Philad. p. 280; Ogilby, Proc. Linn. Soc. N. S. Wales, xxi. 1896, p. 130;  
 M. Weber, Nova Guinea, v. 1907, p. 238.  
*Nematocentris* Peters, Monatsb. Akad. Berlin, 1866, p. 516.  
*Strabo* Kner & Steind. Sitzungs. Akad. Wien, liv. 1866, p. 372.  
*Zantecla* Casteln. Proc. Zool. Soc. Victoria, ii. 1873, p. 88.  
*Aida* Casteln. Research. Fish. Austral. p. 10 (1875).  
*Neoatherina* Casteln, *l. c.* p. 31.  
*Aristeus* Casteln, Proc. Linn. Soc. N. S. Wales, iii. 1878, p. 141.  
*Rhombatractus* Gill, Amer. Nat. 1894, p. 709.

Body compressed; scales large, regularly arranged, with edges entire or slightly crenulated. Mouth terminal, with the jaws equal anteriorly; anterior expansion of præmaxillaries fitting an emargination in the lower jaw; teeth in jaws conical or villiform, in bands, with the outer series enlarged; no teeth outside the mouth; a transverse band of teeth across head of vomer, a few teeth posteriorly on palatines, and a patch at base of tongue. Gill-rakers moderate, 12 to 16 on lower part of anterior arch. Spinous dorsal of one pungent and 4 to 6 flexible spines; soft dorsal of a spine and 9 to 12 branched rays; anal of a spine and 16 to 22 branched rays. Caudal emarginate.

A single species.

## MELANOTÆNIA NIGRANS.

- Atherina nigrans* Richards, Ann. Mag. Nat. Hist. xi. 1843, p. 180.  
*Atherinichthys nigrans* Günth. Cat. Fish. iii. p. 406 (1861).  
*Nematocentris splendida* Peters, Monatsb. Akad. Berlin, 1866, p. 516.  
*Strabo nigrofasciatus* Kner u. Steind. Sitzungs. Akad. Wien, liv. 1866, pp. 373, 395, pl. iii. fig. 10.  
*Zantecla pusilla* Casteln. Proc. Zool. Soc. Victoria, ii. 1873, p. 88.  
*Aida inornata* Casteln. Research Fish. Austral. p. 10 (1875).



*Neoatherina australis* Casteln. *t. c.* p. 32.

*Aristeus fitzroyensis* Casteln. Proc. Linn. Soc. N. S. Wales, iii. 1878, p. 141.

*Aristeus fluviatilis* Casteln. *l. c.*

*Aristeus rufescens* Macleay, Proc. Linn. Soc. N. S. Wales, v. 1880, p. 625.

*Aristeus lineatus* Macleay, *t. c.* p. 626.

*Aristeus cavifrons* Macleay, *ib.* vii. 1882, p. 70.

*Aristeus perperosus* De Vis, *ib.* ix. 1884, p. 694.

*Aristeus loriæ* Perugia, Ann. Mus. Genova, (2) xiv. 1894, p. 549.

*Nematocentris tatei* Zietz, Rep. Horn. Exped. ii. p. 178, fig. 2 (1896).

*Nematocentris winneckii* Zietz, *t. c.* p. 179, fig. 3.

*Melanotænia maculata* M. Weber, Nova Guinea, v. 1907, p. 239, pl. xi. fig. 4.

*Melanotænia ogilbyi* M. Weber, Notes Leyden Mus. xxxii. 1910, p. 230, and Nova Guinea, ix. 1913, p. 560, fig. 28.

*Rhombatractus patoti* M. Weber, Abhandl. Senckenb. Gesellsch. xxxiv. 1911, p. 26, pl. i. fig. 3.

Depth of body  $2\frac{1}{3}$  to  $3\frac{1}{2}$  in the length, length of head  $3\frac{3}{5}$  to  $4\frac{1}{5}$ . Snout about as long as diameter of eye, which is 3 to  $3\frac{1}{2}$  in the length of head; interorbital width  $2\frac{1}{3}$  to  $2\frac{2}{3}$  in the length of head. One or two series of scales on cheek. 12 to 16 gill-rakers on lower part of anterior arch. 33 to 37 scales in a longitudinal series (from above opercular cleft to base of caudal), 11 to 13 in a transverse series. Dorsal V-VII, I 9-12 (13); origin above or in advance of that of anal. Anal I 16-21 (22). Caudal peduncle as long as or longer than deep. Olivaceous above, silvery below. A blackish lateral band may be present or absent; sometimes it is developed only posteriorly; when it is absent a bluish lateral stripe may be seen. Sometimes there are silvery-white stripes along and dark red or brown ones between the series of scales. Fins plain or spotted.

Southern New Guinea; Aru Islands; Australia south to the Swan River, Fincke River, Murrumbidgee River, and Sydney; probably in the sea as well as in fresh water.

Here described from a large series of specimens up to 100 mm. in total length, from New Guinea, Northern, Western, Central, and Eastern Australia, including the type of the species and co-types of *M. ogilbyi*, *N. tatei*, *N. winneckei*, *R. patoti*, and *A. loriæ*, the last kindly sent to me by Dr. R. Gestro.

## 2. RHADINOCENTRUS, gen. nov.

This genus differs from *Melanotænia* in having all the spinous dorsal fin-rays slender and flexible, and also apparently in having the palate toothless.

A single species.

*RHADINOCENTRUS ORNATUS*, sp. n. (Pl. XXXI. fig. 1.)

Depth of body  $3\frac{1}{2}$  in the length, length of head  $3\frac{3}{4}$ . Snout  $\frac{1}{2}$  diameter of eye, which is  $2\frac{1}{2}$  in the length of head and equal to the interorbital width. Mouth oblique and lower jaw somewhat projecting. 33 to 35 scales in a longitudinal series, 8 or 9 in a



transverse one. Dorsal IV, I 11. Anal I 18-19; origin in advance of spinous dorsal. Olivaceous; 2 blackish longitudinal stripes margin the series of scales that runs along the middle of the side; scattered dark spots below it; a dark spot at base of each ray of soft dorsal and anal.

Six specimens, 25 to 37 mm. in total length, from a pond on Moreton Island, near Brisbane, Queensland.

### 3. GLOSSOLEPIS M. Weber, 1907.

Nova Guinea, v. p. 241.

This genus differs from *Melanotænia* in the smaller and irregularly arranged scales with deeply crenulated edges and in the longer and more numerous gill-rakers. Also the teeth are stouter and more obtuse than in *Melanotænia*.

A single species.

#### GLOSSOLEPIS INCISUS.

M. Weber, Nova Guinea, v. 1907, p. 241, pl. xi. fig. 7.

Dorsal IV-VI, I 9-11. Anal I 20-23. 55 to 60 scales in a longitudinal series. About 30 gill-rakers on the lower part of the anterior arch. Reddish brown.

L. Sentani, Northern New Guinea.

I have examined an example sent to me by Prof. Weber.

### 4. ANISOCENTRUS, gen. nov.

Differs from *Melanotænia* only in the structure of the mouth and disposition of the teeth. The lower jaw is included within the upper and has a band of small teeth separated by an interspace from an outer series or double series of enlarged teeth, which are implanted horizontally. The mouth is rather small and its cleft is not very oblique, and is straight or but slightly curved; the anterior expansion of the præmaxillaries is scarcely developed.

A single species.

#### ANISOCENTRUS RUBROSTRIATUS. (Pl. XXXI. fig. 3.)

*Nematocentris rubrostriatus* Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales, (2) i. 1886, p. 14.

*Melanotænia dumasi* M. Weber, Nova Guinea, v. 1907, p. 240, pl. xi. fig. 1, and ix. 1913, p. 558.

Depth of body  $2\frac{1}{3}$  to 3 in the length, length of head  $3\frac{2}{3}$  to  $4\frac{1}{3}$ . Snout longer than distance from its tip to end of maxillary, about as long as diameter of eye, which is  $3\frac{1}{4}$  to  $3\frac{3}{4}$  in length of head; interorbital width  $2\frac{1}{3}$  to  $2\frac{3}{5}$  in length of head. Cheek with 1 or 2 series of scales. 14 to 16 gill-rakers on lower part of anterior arch. 33 to 36 scales in a longitudinal series, 11 to 14 in a transverse series, 15 to 20 in front of spinous dorsal. Dorsal (IV) V-VII, I 9-11 (12); origin of spinous dorsal equidistant from end of snout and base of caudal, or nearer the one or the other, behind, above, or a little in advance of origin of anal; first spine  $\frac{1}{2}$  to  $\frac{2}{3}$  length of head. Anal I 18-21.



Pectoral as long as or longer than head without snout. Caudal peduncle as long as or longer than deep. White stripes or series of spots along the rows of scales, and red ones between them; vertical fins red or with red stripes or series of spots; a series of darker spots at base of soft dorsal and anal.

Southern New Guinea; Aru Islands.

Here described from five specimens of 100 to 130 mm. from the Setakwa River (*Wollaston*) and two, 120 and 140 mm., from the Lorentz River, received from Professor Weber as *M. dumasi*.

##### 5. CHILATHERINA, gen. nov.

Similar to *Anisocentrus* in size and structure of the mouth, but distinguished by the dentition; in the lower jaw there is no interspace between the inner band and the outer series of enlarged teeth, and in the upper there are several series of teeth developed on the outer side of the præmaxillaries and projecting from the thick lip; palatine teeth are absent.

Two species from Northern New Guinea.

##### 1. CHILATHERINA FASCIATA. (Pl. XXXI. fig. 4.)

*Rhombatractus fasciatus* M. Weber, Nova Guinea, ix. 1913, p. 565.

Depth of body 3 in the length, length of head  $4\frac{1}{2}$ . Snout longer than distance from its tip to end of maxillary,  $1\frac{1}{4}$  as long as diameter of eye, which is  $3\frac{1}{2}$  in the length of head; interorbital width 3 in length of head. Cheek with 2 series of scales. 15 gill-rakers on lower part of anterior arch. 42 scales in a longitudinal series, 12 in a transverse series, 20 in front of dorsal. Dorsal V (VI), I 12 (13-16); origin equidistant from end of snout and base of caudal, behind that of anal; first spine more than  $\frac{1}{2}$  length of head. Pectoral  $\frac{3}{4}$  length of head. Caudal peduncle longer than deep. Silvery; back darker; a dark lateral band and below it several narrow dark cross-bars; fins dusky.

Northern New Guinea.

Here described from a co-type, 120 mm. in total length, from the Sermowai River.

##### 2. CHILATHERINA SENTANIENSIS.

*Rhombatractus sentaniensis* M. Weber, Nova Guinea, v, 1907, p. 235, pl. xi. fig. 3.

Depth of body  $2\frac{1}{4}$  to 3 in the length, length of head  $3\frac{1}{2}$ . Snout longer than distance from its tip to end of maxillary,  $1\frac{1}{4}$  to  $1\frac{1}{2}$  as long as diameter of eye, which is  $3\frac{1}{2}$  to  $3\frac{3}{4}$  in length of head; interorbital width 3 in length of head. Cheek with 2 series of scales. 13 gill-rakers on lower part of anterior arch. 40 to 42 scales in a longitudinal series, 13 in a transverse series, 22 to 26 in front of dorsal. Dorsal (IV) V, I 9-11 (12);



origin nearer to base of caudal than to end of snout, well behind that of anal; first spine  $\frac{1}{3}$  to more than  $\frac{2}{5}$  length of head. Anal I 22-25. Pectoral  $\frac{3}{5}$  length of head. Caudal peduncle as long as or longer than deep. Brownish above, silvery with narrow brownish cross-bars below; an indistinct lateral band; fins dusky.

Sentani Lake, Northern New Guinea.

Here described from two co-types, 85 and 105 mm. in total length.

#### 6. CENTRATHERINA, gen. nov.

Related to *Chilatherina*, which it resembles in the structure of the mouth, the arrangement of the teeth in the jaws, etc. It is distinguished by the toothless palate and by having all the rays of the spinous dorsal pungent.

CENTRATHERINA CRASSISPINOSA. (Pl. XXXI. fig. 2.)

*Rhombatractus crassispinus* M. Weber, Nova Guinea, ix. 1913, p. 567.

Depth of body 3 in the length, length of head  $4\frac{1}{4}$ . Snout a little longer than diameter of eye, which is  $3\frac{1}{2}$  in length of head; interorbital width 3 in length of head. 40 scales in a longitudinal, 13 in a transverse series; 26 in front of dorsal. Dorsal IV (V), I 7 (8-11). Anal I 24 (23-26); origin well in advance of that of dorsal. Pectoral  $\frac{3}{4}$  length of head. Caudal peduncle longer than deep. Olivaceous.

Northern New Guinea.

Here described from a co-type, 80 mm. in total length, from the Tawarin River.

#### 7. RHOMBOSOMA, gen. nov.

Resembles *Melanotænia* in most characters, but the well-developed horizontal anterior expansion of the præmaxillaries projects beyond the lower jaw when the mouth is closed, the bands of teeth extend on to the outside of the jaws, and there is no marginal series of enlarged teeth.

Two species.

##### 1. RHOMBOSOMA NOVÆ-GUINÆÆ. (Pl. XXXI. figs. 5, 6.)

? *Aristeus goldiei* Macleay, Proc. Linn. Soc. N. S. Wales, viii. 1883, p. 269; Perugia, Ann. Mus. Genova, (2) xiv. 1894, p. 548.

*Nematocentris novæ-guinææ* Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales, (2) i. 1886, p. 13.

*Rhombatractus affinis* M. Weber, Nova Guinea, v. 1907, p. 234, pl. xi. fig. 5, and ix. 1913, p. 565.

*Rhombatractus kochii* M. Weber, *op. cit.* v. p. 237, pl. xi. fig. 6, and ix. p. 562.

*Rhombatractus weberi* Regan, Ann. Mag. Nat. Hist. (8) i. 1908, p. 155.

*Rhombatractus catherinæ* Beaufort, Zool. Anz. 1910, p. 250, and Bijdr. Dierk. Amsterdam, 1913, p. 106, pl. ii. fig. 1.

*Rhombatractus senckenbergianus* M. Weber, Abhandl. Senckenb. Gesellsch. xxxiv. 1911, p. 25, pl. i. fig. 2.



Depth of body  $2\frac{1}{3}$  to  $3\frac{1}{2}$  in the length, length of head  $3\frac{1}{2}$  to 4. Snout as long as or shorter than distance from its tip to end of maxillary, 1 to  $1\frac{1}{2}$  as long as diameter of eye, which is 3 to  $4\frac{1}{4}$  in the length of head; interorbital width  $2\frac{1}{2}$  to 3 in the length of head. Cheek with 2 or 3 series of scales. 12 to 15 gill-rakers on lower part of anterior arch. 33 to 39 scales in a longitudinal series, 11 to 13 in a transverse series, 15 to 20 in front of spinous dorsal fin. Dorsal (IV) V-VI, I 11-16; origin of spinous dorsal a little in front of, above, or behind that of anal; first spine  $\frac{1}{3}$  to  $\frac{1}{2}$  length of head. Anal I 19-24 (25). Pectoral as long as or a little longer than head without snout. Caudal peduncle as long as or a little longer than deep. Silvery; back olivaceous; scales often with dark edges and pale centres; sometimes dark longitudinal stripes between the series of scales; often a blackish lateral band from snout through eye to base of caudal fin; this may be developed only posteriorly; sometimes a blackish blotch on the side below the band; vertical fins reddish, darker at the base.

New Guinea; Aru Islands; Waigiou.

Here described from a large series of specimens, up to 140 mm. in total length, comprising six from the Mimika River (*B. O. U. Expedition*), the types of *R. weberi* from the Fly River (*Barton*), several from the Aru Islands, including co-types of *R. senckenbergianus*, and examples sent by Professor Max Weber as *R. affinis*, *R. kochii*, and *R. catherinæ*.

In the Mimika River examples I count D. V-VI, I 11-13, A. I 21-23; in those from the Aru Is., D. V-VI, I 12-15, A. I 19-23; in those from the Fly R., D. V-VI, I 12-14, A. I 22; in two from the Lorentz R. (*R. kochii*), D. V. I 12-13, A. I 22-23; in one from Njao (*R. affinis*), D. VI, I 16, A. I 22; and in two from Waigiou (*R. catherinæ*), D. V, I 11-12, A. I 19.

The specimens figured are from the Mimika River, and show well the differences characteristic of young and adult fishes.

## 2. RHOMBOSOMA LORENTZII.

*Rhombatractus lorentzii* M. Weber, Nova Guinea, v. 1907, p. 236, pl. xi. fig. 2, and ix. 1913, p. 564.

Depth of body  $2\frac{1}{3}$  in the length, length of head  $3\frac{3}{4}$ . Snout as long as distance from its tip to end of maxillary,  $1\frac{3}{5}$  diameter of eye, which is  $4\frac{1}{2}$  in the length of head; interorbital width  $2\frac{3}{4}$  in length of head. Cheek with 4 series of scales. 16 gill-rakers on lower part of anterior arch. 38 scales in a longitudinal series, 13 in a transverse series, 19 in front of dorsal. Dorsal (IV) V (VI), I 16 (13-17); first spine  $\frac{1}{3}$  the length of head. Anal I 27 (23-30); origin well in advance of that of spinous dorsal. Caudal peduncle deeper than long. Silvery; back darker.

Northern New Guinea.

Here described from a single specimen, 130 mm. in total length, from the Sermowai River, received from Prof. Max Weber.



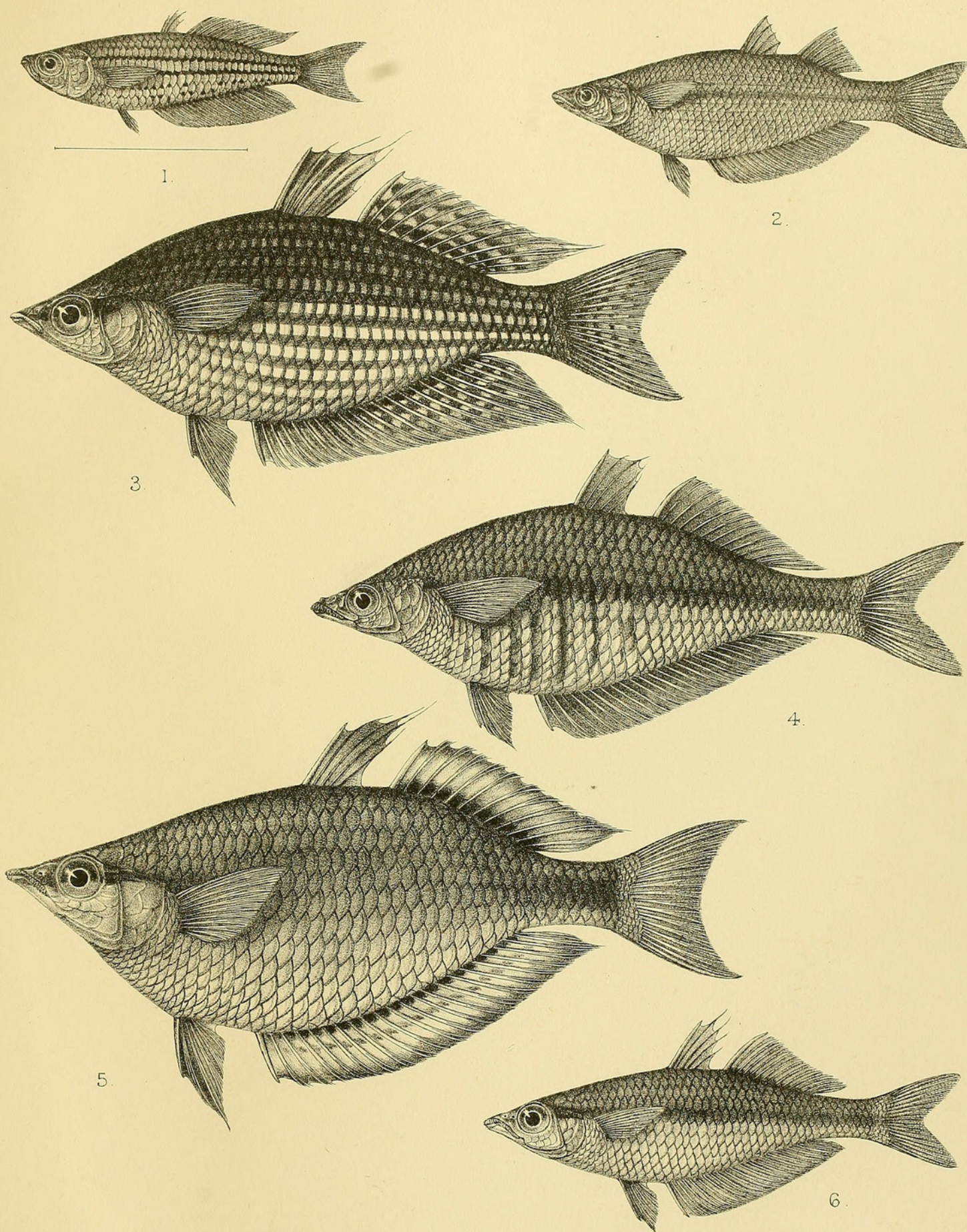
PLATE XXXI.



## PLATE XXXI.

- Fig. 1. *Rhadinocentrus ornatus*.  
2. *Centratherina crassispinosa*.  
3. *Anisocentrus rubrostriatus*.  
4. *Chilatherina fasciata*.  
Figs. 5, 6. *Rhombosoma novæ-guinææ*.





1. RHADINOCENTRUS ORNATUS. 2. CENTRATHERINA CRASSISPINOSA. 3. ANISOCENTRUS RUBROSTRIATUS.  
4. CHILATHERINA FASCIATA. 5, 6. RHOMBOSOMA NOVÆ-GUINÆ.

*J. Green del. lith. et imp.*





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