

NOTES ON GOBIOID FISHES
9. NOTES ON THE SYNONYMY (CONTINUATION
OF NOTE 8)

by

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Cyprinogobius nov. gen.

Body elongate, high, strongly compressed, covered with 25—30 scales, ctenoid on most parts of the body, cycloid on nape, breast and belly. Head compressed, scaled above behind the eyes with large scales; the first unpaired one in the median line behind eye is not much enlarged. Operculum scaled with large scales. Nape without fleshy crest. Bony interorbital less than 1 eye-diameter. Maxillary prolonged to behind the eye or not prolonged (sexual dimorphism?). Mouth oblique. Teeth in several rows, outer row a little enlarged, some teeth caninoid. Tongue rounded to truncate. A number of short mucous canals radiate under eye, 1—2 longitudinal mucous canals over cheeks. One open pore on each side medially of posterior nostril, 3 in interorbital space, one behind each eye, some along posterior margin of preoperculum. Gillopenings extend to a little below base of P. Isthmus moderate. Dorsal fins separate. D. 1 VI; D. 2 I. 6—7; A. I. 6—7. V. united, oblong, under P. P. without free rays. C. rounded, as long as or shorter than head.

Type of genus: *Lophogobius chrysosoma* Blkr.

This genus is closely allied to *Stigmatogobius* and *Pseudogobiopsis*, but differs in the highly compressed form of the body. In its form of body it is allied to *Lophogobius* Gill, so that Bleeker brought his species *chrysosoma* to *Lophogobius*. Having seen the type species of *Lophogobius*, *Gobius crista galli* C. & V. = *cyprinoides* Pallas, I am certain that *Lophogobius* Gill is quite another genus, for it has a crest on the nape and the median part of head behind the eyes is naked.

Cyprinogobius is closely allied to *Ostreogobius* Whitley, type species *Gillichthys australis* Ogilby, but differs from the description of this species in having the head scaled above from behind the eyes, while *Gillichthys australis* is described to have "ctenoid scales, which extend forward to the nape above. Operculum with a few large scales, the rest of the head naked." (McCulloch, Rec. Austr. Mus. XI, 1917, p. 187, pl. XXXI, f. 3).

***Cyprinogobius chrysosoma* (Blkr.)**

Lophogobius chrysosoma Bleeker, Arch. neerl. sc. ex. et nat. X, 1875, p. 114.

Gobius (Acentrogobius) leptochilus M. Weber (not of Blkr.), Abh. Senck. Ges. XXXIV, 1911, p. 41, f. 10.

D. 1 VI; D. 2 I. 6; A. I. 6; P. 17; L.l. 25; L.tr. 7; Predorsal scales 7.

Body oblong, strongly compressed, height 3 in length, $3\frac{3}{4}$ —4 in total length. Head strongly compressed, obtuse, $3\frac{2}{3}$ in length, $4\frac{2}{5}$ — $4\frac{2}{3}$ in total length; profile a little convex. Eyes $3-3\frac{1}{4}$ in head, interorbital $\frac{1}{3}$ eye-diameter. Snout obtuse, half as long as the eye, tip before to below inferior margin of eye. Mouth small, jaws subequal, maxillary extends to middle of eye. Teeth in many rows, in upper jaw outer row enlarged, in lower jaw outer row enlarged, extends to halfway the jaw; no canines. Head scaled above from behind the eyes, the first scale is an unpaired one in the median line, scarcely larger than the following predorsal scales. Preoperculum naked, operculum with some large cycloid scales. Scales of body ctenoid, on head behind eyes cycloid. Gillopenings extend to a little below base of P. Dorsal fins separate. D. 1 pointed, half as high as body, middle rays are the longest. D. 2 and A. not longer than D. 1, a little lower than body, rounded posteriorly. P. without free silklike rays, rounded, not shorter than head. V. a little shorter than head. C. obtuse, about as long as head.

Colour: body orange-red, each scale of dorsal part of body with a dark stripe near the margin. Head with 2 transversal dark stripes, 1st from eye to maxillary, 2nd to behind corner of mouth. An oblique dark stripe over operculum. Fins reddish. D. 1 with black spot between 3rd and 5th ray. Rays of D. 2 and C. spotted. Two dark spots in a vertical line at the base of C.

Length: 49 mm.

Habitat: Borneo (Bandjermasin); Ambon; Aru Islands (Seltutti, Kobroor) in sea and rivers.

The specimen described by M. Weber as *Gobius (Acentrogobius) leptochilus* Blkr. does not belong to this species, but is identical with *Lopho-*

gobius chrysosoma Blkr., as I found in examining the specimen, which was kindly sent on loan to me with other specimens of Gobioid fishes from the collection of the Senckenberg Museum by Dr. R. Mertens, to whom I am very thankful.

Cyprinogobius microphthalmus (Gthr.)

Gobius macrostoma Günther, Cat. Fishes III, 1861, p. 44 (not *Gobiopsis macrostoma* of Steindachner).

Gobius microphthalmus Günther, *ibid.*, p. 550 (substitute name).

D. 1 VI; D. 2 I. 7; A. I. 6; P. 15; L.l. 27; L.tr. 10; Predorsal scales ± 15 .

Body very compressed, 3 in length, $3\frac{3}{5}$ in total length. Head very compressed, $3\frac{1}{3}$ in length, 4 in total length. Eyes 5 in head, interorbital $\frac{3}{4}$ eye-diameter. Snout as long as eye, tip before inferior margin of eye. Mouth oblique, jaws equal. Maxillary extends to a little behind the eye. Teeth in several rows, in upper jaw outer row enlarged, on each side a canine, in lower jaw outer row a little enlarged, extending to halfway the jaw, on each side a recurved canine of inner row. Tongue rounded. Head scaled above from behind the eyes. First scale in median line not much enlarged. Cheeks naked, operculum scaled. Scales of body ctenoid. D. 1 lower than body, 1st and 2nd rays are the longest. C. rounded, shorter than head.

Colour: brownish with irregular narrow oblique darker streaks. D. 1 with two black longitudinal stripes, the lower of which forms a blackish blotch posteriorly. D. 2 with three irregular blackish bands with white spots between them. A. blackish. C. dotted with brown.

Length: 42 mm.

Habitat: Australia.

Type of the species seen in the British Museum.

Cyprinogobius dispar (Peters)

Gobius dispar Peters, Monatsber. Ak. Wiss. Berlin, 1868, p. 264.

Vaimosa dispar Herre, Monogr. 23 Bur. Sci. Manila, 1927, p. 142.

This species, which was brought to *Vaimosa* by Herre, is remarkable in having the maxillary in the male prolonged posteriorly to the posterior margin of eye or farther; in females the maxillary is not prolonged and extends only to the anterior part of the eye. From this species I have seen specimens in the British Museum labelled: Luzon, Peters.

Key to the species of *Cyprinogobius*:

- | | |
|---|----------------------------------|
| 1a. 27—30 scales in L.l. | 2 |
| 1b. 25 scales in L.l., 7 in L.tr., 7 predorsal scales | <i>C. chrysosoma</i> (Blkr.) |
| 2a. L.tr. 10, ± 15 predorsal scales | <i>C. microphthalmus</i> (Gthr.) |
| 2b. L.tr. 8, 10 predorsal scales | <i>C. dispar</i> (Peters) |

Amblygobius albimaculatus (Rüpp.)

Gobius albimaculatus Rüppell, Atl. Reise N. Afr. Fische, 1828, p. 135.

Gobius semicinctus Bennett, Proc. Zool. Soc. London I, 1833, p. 32.

Gobius papilio Cuvier & Valenciennes, Hist. Nat. Poissons XII, 1837, p. 91.

Gobius phalaena Cuvier & Valenciennes, ibid., p. 92.

Gobius quinqueocellatus Cuvier & Valenciennes, ibid., p. 95.

Gobius albomaculatus Rüppell, Neue Wirbelthiere Fische, 1838, p. 137.

Gobius annulatus De Vis, Proc. Linn. Soc. N. S. Wales IX, 1884, p. 688.

D. 1 VI; D. 2 I. 13—15; A. I. 14; P. 18—20; L.l. 50—55; L.tr. 18—19; Predorsal scales 30.

Body elongate, compressed, height $3\frac{2}{3}$ —4 in length, $4\frac{3}{5}$ — $5\frac{1}{4}$ in total length. Head compressed, $3\frac{2}{3}$ —4 in length, $4\frac{1}{2}$ — $5\frac{1}{4}$ in total length; profile convex. Eyes 3—4 in head, interorbital $\frac{2}{3}$ —1 eye-diameter. Snout obtuse, about as long as eye, tip below inferior margin of eye. Anterior nostrils in short tubes. Lips thick. Mouth oblique, jaws equal. Maxillary extends to below anterior half of eye. Teeth in upper jaw in 3 rows, outer enlarged with 4—5 caninoid teeth on each side. Teeth in lower jaw anteriorly in 3 rows, outer enlarged, extending to the half of the jaw; on each side 7—8 caninoid teeth, the last tooth on each side is a strong curved canine. Tongue truncate. Short mucous canals radiate under eye, 2 longitudinal canals over cheeks. Medially in interorbital space 2 open pores; behind each eye a large open pore at the beginning of the supraopercular groove. Head scaled above behind eyes and on upper part of operculum with cycloid scales. Scales of nape, breast and belly cycloid, other scales ctenoid. 2nd, 3rd and 4th ray of D. 1 prolonged, 3rd and 4th longer than height of body. D. 2 and A. lower than body, pointed posteriorly. P. obtuse, not shorter than head. V. pointed, not shorter than P. C. obtusely rounded, longer than head.

Colour: upper parts reddish-green to purplish, lower parts yellowish. Laterally on head some oblique rows of yellowish ocelli, bordered with violet. On upper part of head and nape a longitudinal row of dark or yellowish ocelli, bordered with violet. On body laterally 5—6 transversal bands, placed on the whole body or only on the anterior part. D. 1, P. and A. orange to red. D. 1 with one or more dark spots. C. dark-bordered, at upper part of base a dark spot. D. 2 and A. dark to purple. D. 2 with a hyaline submarginal band.

I found some varieties in the pattern of colour:

Variety *semicinctus* Bennett. Back light olivous, belly yellowish-green. On lower half of body 5—6 transverse, silvery bands, bordered with olive. The 1st, 2nd and 3rd from P. to V., 4th from P. to just behind V., 5th at beginning of A., 6th much weaker, over anterior half of A.

Specimens of this variety are described as *A. semicinctus* (Benn.) and *A. papilio* (C. & V.).

Variety *phalaena* C. & V. Transversal bands dark, bordered with blue, running from back to belly, placed over the whole body. 1st from D. 1 to V., 2nd, 3rd and 4th from D. 2 to A., 5th over caudal peduncle.

Specimens of this variety are described as *A. phalaena* (C. & V.).

Variety *albimaculatus* Rüpp. Between the bands, which are placed as in variety *phalaena*, two longitudinal rows of white spots on dorsal half of the body.

Specimens of this variety are described as *A. albomaculatus* (Rüpp.).

Length: 126 mm.

Habitat: From Red Sea over Indo-Australian Archipelago, Philippines and Australia to Fiji and Society Islands, in sea.

Type specimen of *Gobius semicinctus* Benn. in the British Museum, 3 specimens of *Gobius albomaculatus* Rüpp., collected by Rüppell in Red Sea in collection of the British Museum, type specimen of *Gobius phalaena* C. & V. and 2 type specimens of *G. papilio* C. & V. in the Paris Museum seen by me.

The specimen *Amblygobius insignis* from Sitankai, Sulu Prov. in the British Museum, collected and determined by Dr. Herre, belongs to the variety *albimaculatus*, I do not know whether this specimen is identical with *A. insignis* Seale, of which species the description differs in several points from the specimen of Dr. Herre.

***Cryptocentrus russus* (Cant.)**

Gobius russus Cantor, Cat. Mal. Fishes p. 1168.

Gobius polyophthalmus Bleeker, Nat. Tijdschr. Ned. Indië IV, 1853, p. 474.

Gobius voigtii Bleeker, ibid. VII, 1854, p. 83.

Gobius xanthotaenia Bleeker, ibid. IX, 1855, p. 308.

Gobius russus Günther Cat. Fishes III, 1861, p. 72.

Gobius voigtii Günther, ibid. p. 72.

Gobius polyophthalmus Günther, ibid. p. 73.

Gobius (*Cryptocentrus*) *papuanus* Weber (not of Peters), Siboga Exp. Fische 1913, p. 474.

D. 1 VI; D. 2 I. 10; A. I. 10; P. 17—18; L.l. 85; L.tr. 24.

Body elongate, compressed, height 5—6 in length, $6\frac{1}{2}$ — $7\frac{3}{4}$ in total length. Head obtuse, compressed, $3\frac{1}{2}$ —4 in length, $4\frac{1}{2}$ — $5\frac{1}{4}$ in total length. Eyes $3\frac{3}{4}$ —4 in head, interorbital less than $\frac{1}{3}$ eye-diameter. Snout obtuse, a little shorter than eye, tip before inferior margin of eye. Mouth oblique, lower jaw prominent. Maxillary extends to posterior half of eye. Teeth in several rows; in upper jaw outer row enlarged, in front on each side about 4 caninoid teeth; in lower jaw outer row enlarged, in front on

each side about 5 caninoid teeth, the outer row extends to halfway the jaw, last tooth a curved canine, laterally in lower jaw inner row a little enlarged. 3 longitudinal mucous canals over cheeks. No pore in interorbital space, no pore behind eye. Head and nape naked, scales of body cycloid anteriorly, ctenoid posteriorly. D. 1 lower than body, first rays are the longest, sometimes filiform. D. 2 and A. pointed posteriorly. P. and V. a little shorter than head. C. lanceolate, a little longer than head.

Colour: reddish-green above, lighter red below. Nape and opercles with many purple ocelli. On body on each side 4—8 dark blotches. Body with 8—10 yellow bands running obliquely forwards. Vertical fins light blue. D. 1 with small purple spots, bordered with blue or two waved transverse dark bands, separated by a white one, which surrounds a large black spot between 3rd and 5th ray; upper margin yellowish. D. 2 with 5—6 longitudinal rows of purple spots, bordered with blue. Outer margins of D. 2 and C. bordered with yellow, blue and purple. C. with oblique purple streaks. P. orange. V. violet. A. in middle between each ray a violet spot, outer margin violet and yellow.

Length: 126 mm.

Habitat: Pinang, Indo-Australian Archipelago, Australia.

Type specimens of *Gobius russus* Cantor, 2 skins, in the British Museum seen. Dr. Bleeker has united in his collection his specimens of *Gobius polyophthalmus*, *voigtii* and *xanthotaenia* under the name *polyophthalmus*, so he intended to unite these species. The pattern of colour seems to vary in different specimens, especially the number of blotches on body and the colour of the vertical fins. I have not found differences in *Gobius russus* and *polyophthalmus* which allow to keep the species separate. The specimen described by Prof. Weber as *Gobius (Cryptocentrus) papuanus* from Saleyer in Siboga Exp. Fische, 1913, p. 474, belongs to this species.

Ophiocara porocephala (C. & V.)

Eleotris porocephala Cuvier & Valenciennes, Hist. Nat. Poissons XII, 1837, p. 237.

Eleotris ophicephalus Cuvier & Valenciennes, ibid., p. 239.

Eleotris margaritacea Cuvier & Valenciennes, ibid., p. 240.

Eleotris viridis Bleeker, Verh. Bat. Gen. XXII, 1849, p. 22.

Eleotris porocephala Cantor, Cat. Mal. Fishes, p. 1177.

Eleotris ophiocephalus Cantor, ibid., p. 1178.

Eleotris porocephaloides Bleeker, Nat. Tijdschr. Ned. Indië V, 1853, p. 511.

Eleotris kuak Thiollière, Faune Woodlark, Ann. Sc. Phys. et Nat. Soc. Imp. d'Agric. Lyon (2) VIII, 1856, p. 465.

Eleotris cantor Günther, Cat. Fishes III, 1861, p. 108.

Agonostoma darwiniense Macleay, Proc. Linn. Soc. N. S. Wales II, 1878, p. 360, pl. IX, fig. 8.

Meuschenula darwiniensis Whitley, Australian Zoologist VI, pt IV, 1931, p. 325.

D. 1 VI; D. 2 I. 8—9; A. I. 6—7; P. 15; L.l. 38—40; L.tr. 11—13; Predorsal scales 24—26.

Body elongate, anteriorly cylindrical, posteriorly compressed; height $4\frac{1}{3}$ in length, 5—6 in total length. Head depressed, $2\frac{3}{4}$ —3 in length, $3\frac{1}{2}$ —4 in total length, profile straight to convex. Eyes 4—7 in head, interorbital 1— $2\frac{1}{2}$ eye-diameter. Snout pointed, as long as or a little shorter than eye; tip before middle of eye. Anterior nostrils near margin of snout, in short tubes. Lower jaw prominent, maxillary extends to middle of eye or to posterior part of eye. Teeth in many rows, outer row only a little enlarged, subequal; in lower jaw some teeth of inner row may be enlarged. Some mucous canals radiate under eye. 2 indistinct longitudinal mucous canals over cheeks. Some open pores: one on snout on each side before posterior nostril, in interorbital one open pore medially and 2 open pores on each side near eye; one behind each eye; 2—4 along posterior margin of preoperculum. Supraopercular groove distinct. Scales of body ctenoid. Head totally scaled. Scales of head, nape, breast and belly cycloid to ctenoid. D. 1 half as high as body, 2nd, 3rd and 4th rays are the longest. D. 2 higher than D. 1. A. shorter than D. 2. P. rounded, about as long as head without snout. V. about as long as P. C. rounded, a little shorter than head, in large specimens more lanceolate and about as long as head.

Colour: dark green to dark olivous above, lighter below. Body with dark longitudinal stripes; in large specimens each scale of body has a dark base, the longitudinal lines become indistinct. Finmembranes dusky to violet, rays orange. D. 2, A. and C. bordered with reddish-orange. Finrays of D. 2 and C. spotted. Head, body, D. 2 and A. with yellowish-orange spots, in young specimens irregularly placed, in adult in rows. Young specimens with 2—5 transversal silvery bands, 1st before insertion of D. 1, 2nd between D. 1 and D. 2, 3rd below D. 2, 4th behind D. 2, 5th over base of caudal fin. Some of these bands may be absent.

Length: 320 mm.

Habitat: From British India over Indo-Australian Archipelago and Philippines to Australia, New Ireland, Fiji and Caroline Islands, in sea and rivers.

Colour variety *darwinianse* (Macleay): Central part of many scales with light spot. Membrane of vertical fins dark, D. 2 and C. with rows of yellowish ocelli, some similar ocelli on D. 1, but absent on A. Margin of D. 2, upper and lower margin of C. light. A. broadly bordered with yellow. V. dusky with lighter margin. Australia, British New Guinea (Delta Division).

Perhaps *Eleotris margaritacea* C. & V. belongs to this variety.

Type specimens of *Eleotris ophicephalus* C. & V. in the Paris Museum seen, 2 type specimens of *E. cantoris* Gthr. (*E. porocephalus* Cant.), 2 skins, seen in the British Museum.

Whitley made *Agonostoma darwiniense* Macleay the type of a new genus *Meuschenula*.

Ophiocara aporos (Blkr.)

Eleotris aporos Bleeker, Nat. Tijdschr. Ned. Indië VI, 1854, p. 59.

Eleotris Hoedtii Bleeker, ibid., p. 496.

Eleotris Tolsoni Bleeker, ibid., p. 542.

Eleotris macrolepidotus Gthr. (not Bl.), Fische der Südsee VI, Journal Mus. Godeffroy XIII, 1877, p. 186.

Eleotris macrocephalus Gthr. (not Blkr.), ibid. pl. CXII, fig. B, B', B".

Eleotris ophicephalus Day (not C. & V.), Fishes of India 1878, p. 312, pl. LXII, fig. 2 (sine syn.).

Eleotris tumifrons Day (not C. & V.), ibid. Suppl. 1888, p. 795.

Eleotris tumifrons Day (not C. & V.), Fauna Br. India Fishes II, 1889, p. 292.

? *Hypseleotris agilis* Herre, Monogr. 23 Bur. Sci. Manila 1927, p. 38, pl. 2, fig. 3.

D. 1 (V) VI; D. 2 I. 8—9; A. I. 9; P. 14—15; L.l. 30; L.tr. 10—11; Predorsal scales 13—18.

Body elongate, anteriorly cylindrical, posteriorly compressed; height 4—4 $\frac{3}{4}$ in length, 5 $\frac{1}{3}$ —6 in total length. Head depressed, 3 $\frac{1}{4}$ —3 $\frac{1}{2}$ in length, 4—4 $\frac{2}{5}$ in total length, profile concave. Eyes 4—5 $\frac{1}{2}$ in head, interorbital 1—2 $\frac{1}{4}$ eye-diameter. Snout pointed, from a little shorter than eye to longer than eye, tip before middle of eye. Anterior nostrils near margin of snout, in short tubes. Lower jaw a little prominent, maxillary extends to anterior part of eye. Teeth in many rows, small, outer row a little enlarged, subequal. 2 longitudinal mucous canals over cheeks. Only 2—3 open pores along posterior margin of preoperculum, no other open pores on head. Supraopercular groove indistinct. Scales of body ctenoid posteriorly, cycloid anteriorly. Head totally scaled. D. 1 obtuse, half as high as body, 2nd, 3rd and 4th rays are the longest. D. 2 a little higher than D. 1. A. equal to D. 2, but a little lower. P. obtuse, about as long as head without snout. V. a little shorter. C. obtuse, a little longer than head without snout.

Colour: dark above, orange below. Scales of back and sides with dark spots. 2—3 dark stripes from eye to operculum. Finmembranes dark, rays orange. Dorsal fins, V. and A. bordered with red. Base of P. with dark transverse stripe, bordered with red. C. spotted with yellow.

Length: 245 mm.

Habitat: From British India over Indo-Australian Archipelago, Philippines and Australia to Fiji Islands, in sea and rivers.

Variety *aporos* (Blkr.). Laterally 8—10 dark transversal bars on back ending in middle of sides in 8—10 dark spots in a longitudinal row. V. dark. 17—18 predorsal scales.

Variety *hoedtii* (Blkr.). Laterally a dark band from head to caudal. V. light. 13—15 predorsal scales.

Variety ***güntheri*** nov. var. Body dark coloured, the centre of many scales show a light spot; these spots form longitudinal rows over the body. On head several light spots. On preoperculum and operculum the light spots are placed in rows which run obliquely backwards and downwards from the eye, about along the dark stripes in the other varieties. Membrane of vertical fins dark. D. 1, D. 2, C. and A. with rows of light round to oblong spots. A. and V. bordered with light. V. otherwise dark. D. 1 with a light submarginal band.

This variety which is figured by Günther (Fische der Südsee VI, 1877, pl. CXII, fig. B as *Eleotris macrocephalus* (not of Bleeker!)), is known from the locality Oualan (Günther). The type is Nr. 11422 of the Rijksmuseum van Natuurlijke Historie, Leiden from Pelew, Mus. Godeffroy Jan. 1887. I have seen specimens from N. W. Manus (Admiralty Islands) and from the Moluccas.

This variety has about the same pattern of colour as the variety *darwiniense* of *Ophiocara porocephala* (C. & V.).

Prof. Weber has given some differences between *Eleotris aporos* and *hoedtii* (Nova Guinea V, Zoologie, Livr. II, 1908, p. 252). Indeed in a great number of specimens it is easy to make out to which of these two described species they belong, but a number of specimens are intermediate in their characters. In most of the specimens (including the types) which Bleeker brought to *aporos*, the length of P. from under edge of axil to tip is longer than the distance from margin of eye to posterior opercular border. According to Weber this should be a character of *E. hoedtii*.

The number of predorsal scales is not quite 13—15 and 17—18, but there are specimens which are intermediate, having the number 16. A specimen in the Zoological Museum at Amsterdam, Siboga Exp. St. 277, shows 16—17 predorsal scales, P. a little longer than distance from front border of eye to posterior opercular border; eye 5 in head; transversal bands on back ending in a longitudinal row of spots, forming a broken longitudinal line over body. This specimen shows therefore characters both of *aporos* and *hoedtii*, it was determined as "*hoedtii*".

As for a number of specimens it is impossible to make out to which of the two described species they belong, I can only see, in the same way as

I did in *Glossogobius giuris* (Zool. Meded. Leiden XVIII, 1935, p. 145—147), *aporos* and *hoedti* as varieties of one species.

The specimen *Eleotris macrolepidotus* Bl. from Queensland, Burnett river, 1893, R. Semon, named in Semon Zool. Forschungsreisen V, 1895, p. 270 shows D. 1 VII; D. 2. I. 9 and agrees further with *O. aporos*, having 17 predorsal scales, 32 scales in L.l.; 11—12 scales in L.tr. Perhaps it is a specimen of *O. aporos* with 7 rays in D. 1.

The statement of M. Weber in Nova Guinea V, Zool. Livr. II, 1908, p. 252 that *E. tumifrons* should have about 30 predorsal scales, is an error as Cuvier & Valenciennes (Hist. Nat. Poissons XII, 1837, p. 242) give as number of predorsal scales about 20 and 30 from gillopening to caudal fin. As I have not yet seen specimens of *E. tumifrons* C. & V. or of *macrolepidota* (Bl.), I do not know whether this species belongs to *Ophiocara* or to *Dormitator*, to which genus it was brought by Bleeker (Arch. neerl. X, 1875, p. 106).

Hypseleotris agilis was described by Dr. A. W. Herre without giving the length, he only indicates it as "this little fish". Herre writes (l.c., p. 38): "The diagonal stripes on the side of the head give it a great resemblance to the young of *Ophiocara aporos*." I have seen specimens from Manit lake, Mindanao, collected 26 Sept. 1932, which fully agree with Dr. Herre's description, but otherwise with the description of the young specimens of *O. aporos*. As the young specimens of *O. aporos* often are more or less compressed, probably *Hypseleotris agilis* Herre is only the young of *Ophiocara aporos* (Blkr.).

There is some confusion about the species of the genus *Butis* in literature, especially about the species *B. butis* (H. B.), *amboinensis* (Blkr.) and *melanostigma* (Blkr.)

Bleeker has given a key to the species of the Indo-Australian Archipelago in Versl. Ak. Wet. Amsterdam (2) XI, 1877 p. 59—61. The characters given in this key suffice to distinguish most of the specimens, but as I found some other characters which are not given in the key, I give them below. These characters I found in examining the specimens in Dr. Bleeker's collection. I am certain that the three species given above are well distinguished, but the literature about them is very confused.

Following the key of Bleeker for the greater part, I propose to read under b. on p. 60 as follows:

- bb. Height of body 5—6 in length, 6—8 in total length, shorter than or about as long as the distance from tip of snout to posterior margin of eye. Maxillary extends to anterior part of eye or not so far. Interoperculum naked or only with a few scales.

† Teeth of outer row enlarged. Scales of body and head with auxiliary scales (secondary scales). Ctenoid scales between eye and the orbital crest.

2. *Butis butis* (H. B.).

†' Teeth of outer row not or hardly enlarged. No auxiliary scales. No scales between eye and the orbital crest.

3. *Butis amboinensis* (Blkr.)

cc. Height of body $4\frac{1}{2}$ —5 in length, 5—6 in total length, longer than distance from tip of snout to posterior margin of eye. Maxillary extends to middle of eye. Interoperculum scaled with a row of scales. Teeth of outer row not enlarged. Auxiliary scales. Ctenoid scales between eye and the orbital crest.

4. *Butis melanostigma* (Blkr.).

So *Butis butis* and *melanostigma* are distinguished by the height of the body, the length of maxillary and the squamation of interoperculum, though they have both auxiliary scales and ctenoid scales between eye and orbital crest. *Butis amboinensis* is at once distinguished by having no auxiliary scales and no scales between eye and interorbital crest.

Dr. Bleeker established in Arch. neerl. sc. ex. et nat. IX 1874, p. 304 the genus *Prionobutis* for *Eleotris dasyrhynchus* Gthr. The diagnosis of the genus was enlarged in Versl. Ak. Amsterdam (2) XI 1877, p. 78. He brought to *Prionobutis* two species, *E. dasyrhynchus* Gthr. and *E. koilomatodon* Blkr. (= *caperatus* Cantor).

Prof. Weber described in Nova Guinea V Zool. Livr. II 1908, p. 258, pl. 12, fig. 4a, 4b a new species *Pogoneleotris microps* which he brought to *Pogoneleotris* Blkr., amending the diagnosis of the genus. After having seen the type specimens of *Pogoneleotris microps* Weber, *Eleotris heterolepis* Gthr. (the type species of *Pogoneleotris*), *Eleotris dasyrhynchus* Gthr., *Eleotris caperatus* Cant. and *Eleotris koilomatodon* Blkr., I conclude that *Pogoneleotris microps* is no *Pogoneleotris* but a *Prionobutis*, closely allied to *E. dasyrhynchus* Gthr.

The species of *Prionobutis* may be distinguished by the following characters:

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|--|--------------------------------|
| 1a. Head without cuticular papillae and barbel-like papillae at the ventral side of head. Head scaled above behind eyes, on upper parts of cheeks and on operculum. No auxiliary scales. | <i>P. koilomatodon</i> (Blkr.) |
| 1b. Head with cuticular papillae near the jaws and barbel-like papillae at the ventral side of head. | 2 |
| 2a. Head scaled above behind eyes, on upper part of cheeks and operculum. No auxiliary scales. | <i>P. dasyrhynchus</i> (Gthr.) |
| 2b. Head totally scaled. Auxiliary scales. | <i>P. microps</i> (Weber) |

Prionobutis koilomatodon is fully described by Bleeker in Versl. Ak. Amsterdam (2) XI 1877, p. 73—75.

Prionobutis dasyrhynchus (Gthr.)

Eleotris dasyrhynchus Günther, Ann. Mag. Nat. Hist. (4) I 1868, p. 265, pl. 12, fig. B.

D. 1 VI; D. 2 I. 8; A. I. 7; P. 19; L.l. 30; L.tr. 9; Predorsal scales 12.

Body a little elongate, height $4\frac{3}{4}$ in length. Head very broad, depressed, $3\frac{1}{3}$ in length. Cheeks swollen. Eyes about 8 in head, interorbital broad, $1\frac{1}{2}$ eye-diameter. Snout very broad, longer than eye. Maxillary extends to behind eye. Teeth small, outer row a little enlarged. Jaws and surroundings with cuticular papillae; ventral side of head with a row of barbel-like papillae on each side. Head scaled above behind eyes and on upper parts of cheeks and operculum. D. 1 not of height of body, middle rays are the longest. D. 2 and A. higher than D. 1, but lower than body. P. a little shorter than head. V. shorter than P. C. rounded, shorter than head.

Colour according to Günther: "brownish black, each scale with the margin lighter; back with two or three yellowish blotches: the first, at the origin of the spinous dorsal, is sometimes absent; the second at the origin of the soft dorsal, and the third on the back of the caudal peduncle. Dorsal fins coloured as the body underneath, caudal nearly uniform white. Pectoral rays variegated with black."

Length: 65 mm.

Habitat: Borneo, in rivers.

Types and specimens of *E. dasyrhynchus* seen in the British Museum.

Prionobutis microps (M. Weber)

Pogoneleotris microps M. Weber, Nova Guinea V Zool. Livr. II 1908, p. 258 pl. 12, fig. 4a, 4b.

D. 1 VI; D. 2 I. 8; P. 21—22; L.l. 30—32; L.tr. 10; Predorsal scales (to tip of snout) ± 35 .

Body a little elongate and compressed, height 4—5 in length, 5—6 in total length. Head strongly depressed, profile straight to nearly convex, $3\frac{1}{6}$ — $3\frac{1}{3}$ in length, 4 — $4\frac{1}{2}$ in total length. Eyes 7 — $8\frac{1}{2}$ in head, interorbital $2\frac{1}{2}$ —3 eye-diameter. Snout broad, length of snout $2 \times$ eye, tip before middle of eye. Lower jaw a little prominent. Maxillary extends to middle or to posterior margin of eye. Jaws and surroundings in adult with cuticular papillae, lower side of head on each side with a row of barbel-like papillae. Nostrils close together, funneled. Teeth in broad bands, inner row in upper jaw and lower jaw a little enlarged. Tongue rounded. Isthmus very narrow. Short mucous canals radiate under eye, 3 longitudinal canals over cheeks. On each side at dorsal end of gillopening a backwards directed open pore. Scales ctenoid, at their base a row of 5 auxiliary scales

(a central large one and on each side 2 smaller ones). Head totally scaled with smaller scales. The auxiliaries decrease at the front of body. D. 1 convex, lower than half the height of body, 3rd ray is the longest. D. 2 a little higher. A. a little higher than D. 2. P. and V. as long as head without snout. C. oblong, as long as head.

Colour: brown with indistinct darker clouds and longitudinal stripes. D. 1 with yellowish blotches, other fins dark. D. 2, A., P. and C. with rows of blotches.

Length: 230 mm.

Habitat: New Guinea, in fresh and brackish water.

Types of *Pogoneleotris microps* M. Weber in the Zoological Museum at Amsterdam seen.

The specimens in the British Museum labelled: *Gobius hoplopomus*, Persian Gulf, 10—20 faths. Townsend 1904. 5. 25 201—204 (*G. caninoides*), 4 specimens, belong to *Oplopomus caninoides* (Blkr.), as is stated by Dr. C. Tate Regan in Trans. Linn. Soc. London XII fasc. 3 1908, p. 241—242.

The specimens *Gobius acanthistius*, types, 1901. 12. 31 48—51, Maldives, Gardiner, 4 specimens, therefore the types of *Hoplopomus acanthistius* Regan (l.c., p. 242) belong to *Oplopomus oplopomus* (C. & V.).

In the same way the specimens *Gobius caninoides (ornatus!)* 1901. 12. 31 52—58, Maldives, Gardiner, 7 specimens, belong to *Oplopomus oplopomus* (C. & V.).

The two species of *Oplopomus* may be distinguished as follows:

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|--|-------------------------------|
| 1a. Cheeks and opercles naked. 4th and 5th ray of D. 1 | |
| filiform. Eyes 3 in head. | <i>O. oplopomus</i> (C. & V.) |
| 1b. Cheeks and opercles scaled. No ray of D. 1 filiform. | |
| Eyes 3 ½—4 in head. | <i>O. caninoides</i> (Blkr.) |

In the collection of the British Museum I found a specimen labelled: *Bunaka pinguis* Herre, San Ramon Zamboanga Prov. Mindanao, Herre coll. et det. This specimen shows on the right and left side a small pungent spine and shows no differences with *Culius fuscus* (Bl. Schn.). Dr. Herre gives in the description of the genus *Bunaka* (Monogr. 23 Bur. Sci. Manila 1927, p. 60—61) the character: "This genus is easily separated from *Eleotris* by the absence of a preopercular spine". Without having seen the type of *Bunaka pinguis*, I cannot make out whether Dr. Herre made an error in determining the specimen or in establishing the genus *Bunaka*.