

A new species of *Allomogurnda* (Gobioidei: Eleotridae) from the Sepik River system of Papua New Guinea

by

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Abstract. – *Allomogurnda multicincta*, n. sp. is described on the basis of 168 specimens, 11–36 mm SL, collected from Malas Creek, a small tributary of the Sepik River, Papua New Guinea. Morphological and preliminary genetic comparisons indicate it is closely related to *A. nesolepis*, which is widely distributed in northern New Guinea. The new species differs from *A. nesolepis* and all other members of the genus in typically having fewer predorsal scales (15–18 versus 15–24, but usually 19–21 for *A. nesolepis* and usually 18–27 for other congeners). Moreover, unlike other members of the genus, which have a peculiar scale orientation in the interorbital region, featuring many scales with freely exposed anterior margins, only the anteriormost 1–3 scales exhibit this condition in *A. multicincta*. The new species also differs from *A. nesolepis* and other congeners in possessing a unique colour pattern consisting of a series of relatively narrow brown bars.

Résumé. – Une nouvelle espèce d'*Allomogurnda* (Gobioidei : Eleotridae) du bassin de la rivière Sepik en Papouasie-Nouvelle-Guinée.

Allomogurnda multicincta, n. sp. est décrite sur la base de 168 spécimens de 11 à 36 mm de longueur standard, capturés dans le ruisseau Malas, un petit affluent de la rivière Sepik, en Papouasie-Nouvelle-Guinée. Les comparaisons morphologiques et génétiques indiquent qu'il est étroitement lié à *A. nesolepis*, une espèce largement distribuée dans le nord de la Nouvelle-Guinée. La nouvelle espèce diffère de *A. nesolepis* et de toutes les autres espèces du genre par le nombre d'écaillles prédorsales (15–18 versus 15–24, mais habituellement 19–21 pour *A. nesolepis* et 18–27 pour les autres). De plus, contrairement aux autres espèces du genre qui possèdent une orientation particulière des écaillles dans la région inter-orbitaire avec présence de nombreuses écaillles avec des marges antérieures librement exposées, chez *A. multicincta* seules les écaillles antérieures 1–3 présentent cette disposition. La nouvelle espèce diffère également de *A. nesolepis* et des autres espèces par un motif de couleur unique consistant en une série de barres brunes relativement étroites.

The gudgeon family Eleotridae is well represented in fresh waters of Australia and New Guinea, occupying a variety of lotic and lentic habitats (Allen, 1991; Allen *et al.*, 2003). *Mogurnda* Gill, 1863 is by far the most speciose genus in the region, containing at least six Australian species (Allen and Jenkins, 1999; Hoese, 2006) and 21 from New Guinea (Allen and Hadiaty, 2014). No doubt further exploration will result in additional new species and others will likely be described when several of the existing widespread species are genetically examined. The genus *Allomogurnda* Allen, 2003 was described to accommodate a group of eight species that were tentatively placed in *Mogurnda*, but differed noticeably in their alignment of interorbital scales, characterized by a unique orientation in which the anterior scale margins are exposed, rather than the typical condition of exposed posterior margins. Subsequently we found that some species of *Mogurnda* (*M. mogurnda*, *M. kutubuensis* and *M. variegata*) also have the reversed orientation of the anteriormost predorsal scales. However, it appears that *Allomogurnda* differs from *Mogurnda* in having a single epural (versus 2 in *Mogurnda*). We have found only a single epural in *Allomogurnda flavimarginata*, *A. hoesei*, *A. nesolepis*,

A. papua and the species described here. In addition, most members of the genus differ from *Mogurnda* in having a more slender body shape and relatively broader interorbital region.

The present paper describes a new *Allomogurnda*, the ninth member of the genus, collected by the authors as part of a survey of freshwater fishes of the Sepik River system in Papua New Guinea during 1988. The same collecting locality was visited in 2007 by colleague Peter Unmack, who collected four additional specimens. Although the new species has fewer scales (anteriormost 1–3) with the unusual backwards interorbital scale orientation, it is otherwise morphologically and genetically similar to *A. nesolepis* (Weber, 1907), which ranges widely in northern New Guinea.

MATERIALS AND METHODS

Lengths of specimens are given as standard length (SL) measured from the anterior end of the upper lip to the base of the caudal fin (posterior edge of hypural plate); head length (HL) is measured from the same anterior point to the posteri-

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or edge of the opercle flap; two measurements of body depth were taken, one is the vertical distance between the bases of the pelvic and first dorsal fins, and the other is the vertical distance between the anal-fin origin and the base of the dorsal fin; snout length is measured from the anterior end of the upper lip to the anterior margin of the eye; eye diameter is the horizontal diameter of the exposed eye; interorbital width is the width of the scaled area; upper jaw length is taken from the anterior terminus of the upper lip to the posterior margin of the maxilla; caudal peduncle depth is the least depth, and caudal peduncle length is the horizontal distance between verticals at the posterior terminus of the anal-fin base and the caudal-fin base; predorsal, preanal, and prepelvic distances are measured from the anterior terminus of the upper lip to the origin of the respective fins; caudal-fin length is the horizontal length from the posterior edge of the hypural plate to a vertical at the tip of the longest ray; pectoral-fin length is the length of the longest ray; pelvic-fin length is measured from the base of the outermost ray to the tip of the longest ray; lateral scale counts are made in a horizontal row between the upper pectoral-fin base and caudal-fin base; transverse scale counts are made from the origin of the second-dorsal fin, counting ventroposteriorly along a discrete row to the anal-fin base; gill raker counts include all rudiments and are divided into lower and upper arch elements; the last fin-ray element of the dorsal and anal fins is usually branched ventral to the fin base, and although appearing as two rays, is actually a single element and counted as such.

The illustrations of interorbital scale patterns were facilitated by scraping away the thick mucus coat that usually covers the predorsal region and then staining with Cyanine Blue solution (Saruwatari *et al.*, 1997). The scalation pattern was further enhanced by tracing over the individual scale margins with bold lines. Terminology for cephalic sensory papillae is based on Wongrat and Miller (1991).

Type specimens are deposited at the Auburn University Museum, Alabama, USA (AUM), Zoologicum Bogoriense, Bogor, Indonesia (MZB), the Natural Museum of Natural History, Leiden, (RMNH), United States Natural History Museum, Washington, DC (USNM), and Western Australian Museum, Perth (WAM).

***Allomogurnda multincincta* n. sp.**

(Figs 1-3; 5A)

Mogurnda sp. 4. – Allen, 1991: 165-166 (photo 25, Malas Creek, Papua New Guinea).

Material examined

One hundred and sixty-eight specimens from Malas Creek, Papua New Guinea; size range 11-36 mm SL.

Holotype. – WAM P.29831-002, male, 31.5 mm SL, Malas Creek, 03°36.950'S, 142° 57.021'E, about 17 km east of Maprik Village on Wewak-Lumi Road, East Sepik Province, Papua New Guinea, 0.1-0.5 m depth, rotenone, 22 Oct. 1988, Allen, Hoese and van Zweiten coll.

Paratypes. – AMS I.28013-001, 72 specimens, 11.0-35.0 mm SL, same locality as holotype, 11 Feb. 1988, van Zweiten coll.; AMS I.28009-001, 75 spms, 13.0-36.0 mm SL, collected with holotype; AUM 47644, 4 spms, 12.0-35.3 mm SL, same locality as holotype, 11 Oct. 2007, Unmack and Ko'ou coll.; USNM 432537, 4 spms, 25.4-30.2 mm SL, collected with holotype; WAM P.29831-008, 12 spms, 24.0-33.1 mm SL, collected with holotype.

Comparative material

Allomogurnda multincincta n. sp. was compared to its most similar congener, *A. nesolepis*. Numerous examples of *A. nesolepis* (all from Papua New Guinea unless stated otherwise) were examined: WAM P.26725-002, 22 mm SL, stagnant pool on Angoram Road (3°47'S, 143°44'E), Sepik River system; WAM P.26728-002, 4 specimens, 22-33 mm SL, Mambel Stream (4°02'S, 144°14'E), Sepik River system; WAM P.26740-001, 38 mm SL, 12 km north of Bewani (3°05'S, 144°14'E); WAM P.26742-002, 3 spms, 23-34 mm SL, 10 km east of Vanimo (2°42'S, 141°21'E); WAM P.26744-001, 7 spms, 20-31 mm SL, 15 km south of Vanimo (2°46'S, 141°13'E); WAM P.26974-002, 30 mm SL, creek on Lae-Bulolo Road (6°44'S, 146°43'E), Markham River system; WAM P. 27832-005, 76 spms, 12-27 mm SL, Saramandi Creek, Sepik River system (3°58'S, 144°00'E); WAM P.27834-002, 57 spms, 15-39 mm SL, Letak Creek (3°41'S, 143°43'E); WAM P.27845-005, 8 spms, 25-35 mm SL, creek near Pagwi Village, (3°58'S, 144° 00'E), Sepik River system; WAM P.27848-001, 71 spms, 11-42 mm SL, 12 km south of Vanimo (2°45'S, 141°14'E); WAM P.27849-011, 21 spms, 19-38 mm SL, Luap Creek near Bewani (2°59'S, 141°11'E); WAM P.27869-005, 9 spms, 22-37 mm SL, tributary near Lake Holmes (2°29'S, 138°00'E), Mamberamo River system; WAM P.28190-009, 3 spms, 32-38 mm SL, Nuru River (5°26'S, 145°34'E), Gogol River system; WAM P.28192-003, 21 spms, small tributary of Green River (3°53'S, 145°34'E), Sepik River system; WAM P.29600-005, 25 spms, 18-34 mm SL, tributary of Gogol River (5°15'S, 145°42'E), Ramu River system; WAM P.29605-008, 2 spms, 27-29 mm SL, Tok Tok River (4°11'S, 144°46'E), Ramu River system; WAM P.29615-003, 22 spms, 18-46 mm SL, near Dumpu airstrip (5°53'S, 145°46'E), Ramu River system; WAM P.29621-006, 3 spms, 24-26 mm SL, Ramu River (5°20'S, 145°30'E); WAM P.30420-002, 11 spms, 23-37 mm SL, creek on Demptra Road (2°29'S, 140°07'E), Papua Province, Indonesia; WAM P.31217-001, 3 spms, 27-37 mm SL, near Braham Mission (5°43'S, 145°24'E), Ramu River system; WAM P.31446-003, 4 spms, 20-28 mm SL, creek near Siewa (3°2.14'S, 136°22.66'E), Wapoga River system, Papua Province, Indonesia; WAM P.31448-007, 5 spms, 26-29 mm SL, creek near Siewa (3°2.14'S, 136°22.66'E), Wapoga River system, Papua Province,

Indonesia; WAM P.31456-003, 3 spms, 39-41 mm SL, creek near Siewa (3°2.14'S, 136°22.66'E), Wapoga River system, Papua Province, Indonesia.

Diagnosis

Dorsal-fin rays VII-VIII+I,10-12; anal-fin rays I,9-11; pectoral-fin rays 13-15, scales in longitudinal series 35-41; predorsal scales 15-18. Head pores absent. Predorsal scales cycloid, increasing in size anteriorly, reaching forward to above posterior half of eye, the anteriormost 1-3 scales with reverse scale orientation featuring exposed anterior margin. Operculum with dorsalmost two-thirds covered with large cycloid scales, in 4-5 rows. Cheek naked or with few embedded cycloid scales posterior to eye. Gill opening extends anteroventrally to almost reach the posterior preopercular margin. Colour pattern includes stripes on lower and middle cheek, short oblique band posterior to dorsoposterior corner of eye, and series of 10-14 vertical brown bars.

Description

The frequency of each count is indicated in parentheses with the value for the holotype indicated with bold print. First dorsal-fin rays VII(**36**), VIII(7); second dorsal-fin rays I,10(4), I,11(27), I,12(**12**); anal-fin rays I, 9(12), I,10(**27**), I,11(4); pectoral-fin rays 13(11), 14(**42**), 15(1); pelvic-fin rays I,5; segmented caudal-fin rays 14(3), 15(**35**), 16(2); branched caudal-fin rays 13(1), 14(6), 15(**34**); longitudinal scale count 35(1), 36(10), 37(8), 38(8), 39(**6**), 40(1), 41(1); transverse scale count 11(3), 12(**28**), 13(12); predorsal scale count 15(11), 16(16), 17(**11**), 18(6); postdorsal scale count 8-9, usually **8**; gill rakers on outer face of first arch 1-2+1+7-10 = 9-14, usually **9-11**, gill rakers short, curved and broad at base, length less than one-third filament length; lower rakers on outer face of second arch 7-9, usually **7**; rakers denticulate on inner face of first gill arch and both arches of other gill arches; total vertebrae 30(2), 31(**9**), 32(2).

Body proportions for the holotype are given first with the range for paratypes appearing in parentheses if different. Body relatively slender and laterally compressed; greatest body depth at pelvic-fin origin 6.5 (5.4-6.7), body depth at anal-fin origin 6.6 (5.5-6.9), both in SL. Caudal peduncle relatively long and slender, least depth 2.5 (2.2-2.8), and length 1.2 (1.1-1.3), both in HL. Head broad, top of head more or less rounded, its length 3.7 (3.4-3.7) in SL; head depth at posterior preopercular margin 2.1 (2.0-2.1), width at posterior preopercular margin 1.7 (1.6-1.8), both in HL. Mouth oblique, forming an angle of about 40-45° with body axis; anterior margin of jaws in line with a point just dorsal to mid-point of eye to the dorsalmost margin of the pupil; posterior terminus of jaws ventral to, or ventroposterior to, anterior margin of eye; upper jaw 3.5 (3.1-4.1) in HL. Anterior naris at end of short tube, just above upper lip and below and in front of posterior naris; posterior naris a pore just

before middle of eye, less than one narial diameter from eye and 3-4 narial diameters from anterior naris. Eye moderate about subequal to snout, 4.1 (3.7-4.4) in HL. Dorsal profile of snout almost horizontal to slightly oblique in lateral view, broadly rounded in dorsal view, 3.9 (3.6-4.5) in HL. Tongue tip with slightly rounded margin. Outer row of teeth in upper jaw wideset and slightly enlarged, followed by 4-5 rows of smaller conical teeth; outer row of teeth in lower jaw slightly enlarged anteriorly and relatively close-set, followed by 3-5 rows of smaller conical teeth. Interorbital region wide, fleshy portion of interorbital region slightly less than eye diameter. Operculum with 2-5 scale rows on upper two-thirds of operculum; cheek bulbose and usually with few embedded scales dorsoposterior to eye (often lost in preserved material); pectoral-fin base fully covered with small cycloid scales; prepelvic area about two-thirds scaled, naked anteriorly. Body scales largely ctenoid, cycloid on belly and anterior to a line from just posterior to upper pectoral-fin base to base of second dorsal fin and ventroposteriorly from upper pectoral-fin base to anal-fin origin.

Cephalic sensory pores absent, but papillae well developed (Fig. 2). A series of papillae lines radiating away from and encircling eye, with 8-10 rows between nares and beginning of row *b*. Row *b* composed of single line of papillae extending ventroposteriorly from posterior end of eye to near posterior preopercular margin. A series of short vertical papillae lines above row *b*. Row *d* extending from or near posterior terminus of jaws and just posterior to middle of preoperculum. Outer preopercular-mandibular series with a gap just posterior to jaws. Inner preopercular mandibular series composed of multiple rows (2-4) of papillae. Papillae dorsal to eye and inner preopercular mandibular papillae composed of single row in juveniles below 19 mm SL (Fig. 2B).

First dorsal fin low, with rounded margin, its origin well posterior to a vertical line with pelvic-fin insertion. Second dorsal fin slightly higher than first dorsal fin, posterior rays prolonged in males (reaching to dorsal unsegmented caudal-fin rays), slightly prolonged in females and young males (reaching to or just beyond middle of caudal peduncle. Anal fin subequal in height to second dorsal fin, posterior rays terminating slightly short of end of posterior ray of second dorsal fin. Pectoral fin with pointed margin, reaching to a vertical point dorsal to and between the anus and anal-fin origin, its length 1.2 (1.2-1.4) in HL. Pelvic-fin origin on a vertical line with the dorsalmost origin of the pectoral-fin, its length 1.5 (1.4-1.8) in HL; caudal fin rounded, relatively short, 1.0 (1.0-1.3) in HL.

Seventeen specimens, 24-35 mm SL, were utilized for the following measurements. The value for the holotype is presented first followed in parentheses for the range for paratypes. The mean value is shown in bold print. Proportional measurements (as percentage of SL): body depth at



Figure 1. – *Allomogurnda multicincta*, freshly collected specimens from Malas Creek, Papua New Guinea (photos G. Allen). **A:** Holotype, WAM P.29831-002, male, 31.5 mm SL. **B:** Paratype, WAM P.29831-002, female, 29.5 mm SL.

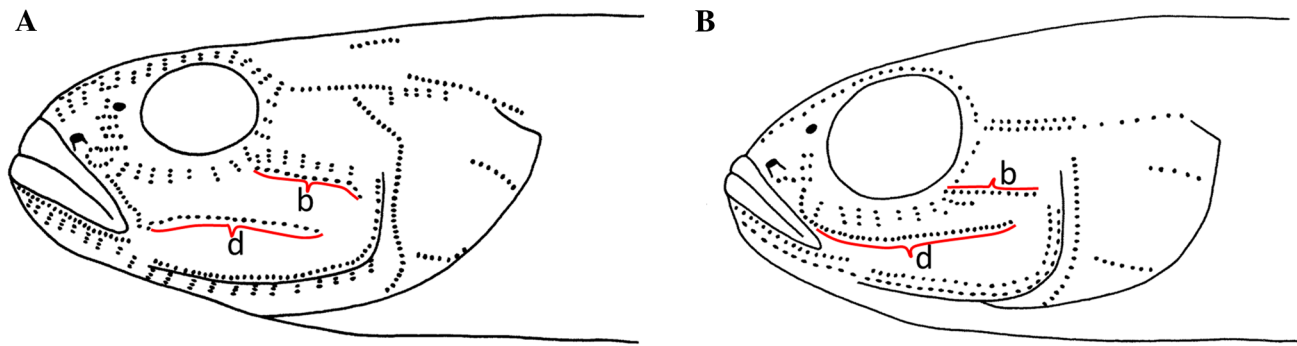


Figure 2. – *Allomogurnda multicincta*, drawing of cephalic sensory papillae pattern. **A:** AMS I.28009-001, 36 mm SL. **B:** AMS I.28009-001, 16 mm SL (E. Moodie drawings). Papillae rows b and d (mentioned in text) indicated in red.



Figure 3. – *Allomogurnda multicincta*, preserved holotype, WAM P.29831-002, male, 31.5 mm SL, Malas Creek, Papua New Guinea (Photo G. Allen).

pelvic-fin origin 15.5 (15.0-18.5, **16.5**); body depth at anal-fin origin 15.3 (14.5-18.1, **15.7**); head length 27.4 (27.0-29.7, **28.3**); head depth at posterior preopercular margin 13.0 (13.3-14.3, **13.7**); head width 15.8 (15.5-17.8, **16.7**); snout length 7.0 (6.2-7.6, **7.0**); eye diameter 6.6 (6.2-7.7, **6.9**); interorbital width 5.7 (3.8-5.8, **5.0**); upper jaw length 7.8 (7.3-9.5, **7.8**); caudal peduncle depth 11.2 (10.3-12.4, **11.1**); caudal peduncle length 22.6 (22.0-25.9, **24.0**); predorsal length 33.7 (33.8-37.0, **35.0**); preanal length 57.0 (52.2-60.1, **56.0**); pre-pelvic length 26.7 (24.9-29.0, **27.3**); length of second dorsal-fin base 25.8 (20.8-26.1, **23.3**); length of anal-fin base 19.7 (15.5-20.8, **17.9**); pectoral-fin length 21.9 (20.6-24.6, **22.8**); pelvic-fin length 18.4 (16.1-18.8, **17.6**); caudal-fin length 27.0 (21.4-27.8, **24.5**); tallest dorsal spine length 13.8 (10.8-

15.5, **12.5**); tallest soft dorsal-ray length 19.8 (10.6-21.7, **16.4**); tallest soft anal-ray length 17.3 (12.1-18.8, **15.4**).

Colour when freshly collected

Adult male holotype (Fig. 1A). – Generally purplish on head grading to reddish brown on body (with narrow, dark scale outlines); three, dark brown to reddish stripes/bands on head: ventralmost from rear corner of mouth across lower cheek to posterior margin of opercle, a slightly broader and darker stripe from side of snout and coursing just ventral to eye to posterior margin of opercle, and a third, short band from dorsoposterior corner of eye to mid-laterally on nape; large, dark brown saddle straddling nape region at level of posterior half of opercle; side of body with 11 dark brown (except first, just posterior to pectoral-fin base, blackish)

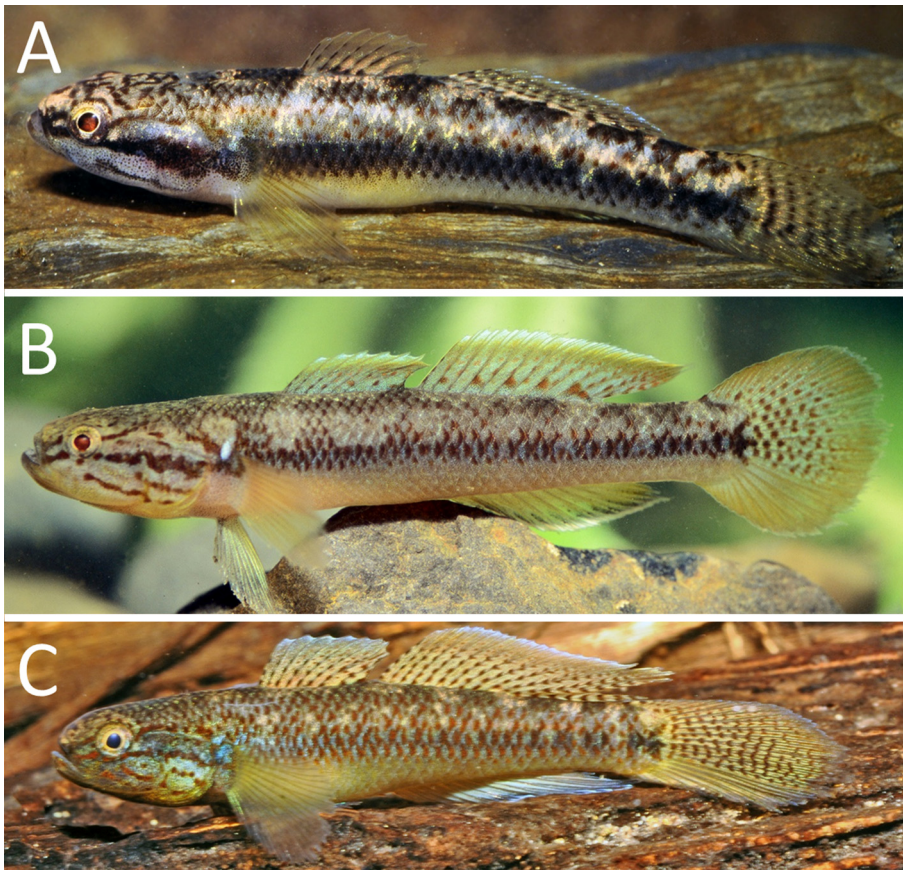


Figure 4. – *Allomogurnda nesolepis*, aquarium specimens, approximately 30-35 mm SL (photos G. Allen). **A:** Vicinity of Jayapura, West Papua Province, Indonesia. **B:** Braham Mission, Ramu River, Papua New Guinea. **C:** Dabra, Mamberamo River, Papua Province, Indonesia.

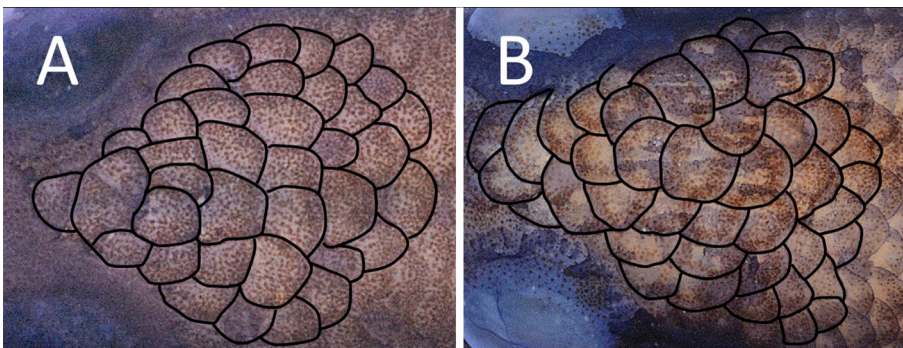


Figure 5. – Patterns of predorsal scalation for *Allomogurnda*. Anteriormost (interorbital) scales at left of each illustration. **A:** *A. multincincta*, paratype (AUM 47644), 35.3 mm SL. **B:** *A. nesolepis* (WAM P.27848-001), 42.0 mm SL.

bars of variable width, those on anterior half generally about equal in width or only slightly narrower than brown spaces between bars; dusky bars on posterior half of body originate dorsally from broad dark brown, saddle-like markings, but generally much narrower than brown interspaces; dorsal fins yellowish (especially noticeable on outer margins) with dusky purplish rays; anal fin yellowish on basal two-thirds and dusky purplish with clear interradiation membranes on distal third; caudal fin yellowish with dusky purplish rays and numerous, diffuse red spots, more or less arranged in about six transverse rows; pelvic fins dusky purplish except fin-rays and distal edge of entire fin yellowish; pectoral fins

translucent with prominent dark-brown bar on dorsal half of base.

Adult female (Fig. 1B). – Generally greyish brown on dorsal half of head and white on ventral half with thin grey stripe across lower portion of cheek and broader, blackish stripe laterally on snout extending to anteroventral corner of eye, and then continuing posteriorly from eye to just posterior to preopercular margin; side of body reddish brown (except yellowish on belly region), with narrow, dark scale outlines and series of 10 dark bars as described below; first dark bar (just posterior to pectoral-fin base) wider than others and intensely blackish, other bars on side dark grey or blackish, progressively narrowing posteriorly, those on cau-

dal peduncle about one-third width of brown interspaces; dorsal fins pale yellow with submarginal reddish band and larger reddish spots at base, corresponding with dusky bars ventrolaterally; anal fin whitish to dusky purple with brownish basal stripe; caudal fin pale yellow with purplish rays and series of five transverse rows of small reddish spots; pectoral fins translucent (appearing white in Fig. 1B due to congealed mucus) with blackish spot covering most of dorsal half of fin base.

Colour in preservation

After 28 years in preservative the head and body are generally yellowish tan (Fig. 3), sometimes with faint darkish scale margins; dark stripes/bands on head and brown bars and saddles on body as described for fresh specimens still evident, although generally much fainter; fins generally whitish or with dusky brownish membranes; dark marking on upper pectoral-fin base and much darker first body bar clearly evident on most specimens.

Distribution and habitat

Allomogurnda multicincta is currently known only from East Sepik Province, Papua New Guinea where it was collected in a small tributary (Malas Creek) of the Amuk River, situated about 17 km east of Maprik Village via the Wewak-Lumi Road. The Amuk River is a tributary of the Screw River, one of the major northern tributaries of the Middle Sepik River drainage. The type locality is located at the edge of the foothills of the Prince Alexander Mountains at an elevation of about 150 m above sea level and lies approximately 455 km upstream from the Pacific Ocean. The habitat consisted of a narrow rainforest creek with slow-flowing sections interrupted by occasional rapids. The fish congregated among branches of submerged logs. The stream contained a typical assemblage of small-stream dwelling fishes including *Tandanus gjellerupi* (Plotosidae), *Chilatherina fasciata* and *Melanotaenia affinis* (Melanotaeniidae), *Glossamia gjellerupi* (Apogonidae), *Hephaestus transmontanus* (Terapontidae), and *Allomogurnda* new species, *Mogurnda aurofodinae*, and *Oxyeleotris fimbriata* (Eleotridae). A collection at the same site in 2007 by P. Unmack yielded two additional species including *Glossogobius torrentis* (Gobiidae) and introduced tilapia (*Oreochromis mossambica*, Cichlidae).

Etymology

The new species is named *multicincta* (Latin: many bars/bands) with reference to the diagnostic colour pattern.

Comparison

The new species is most similar in body shape and general morphology to *A. nesolepis* (Fig. 4), which ranges widely in both coastal drainages and major inland river systems of northern New Guinea from the Markham River system

of Papua New Guinea eastward to the Wapoga River system of Papua Province, Indonesia. However, *A. multicincta* differs from *A. nesolepis* and all other members of the genus in generally having fewer predorsal scales (15-18 *versus* 15-24, but usually 19-21 for *A. nesolepis* and usually 18-27 for other congeners). Moreover, the two species possess different patterns of interorbital scalation (Fig. 5). Scales are restricted to the posterior half of the interorbital in *A. multicincta* (Fig. 5A) in contrast to the more fully scaled situation for *A. nesolepis* (Fig. 5B). They also differ with regards to the general pattern of scale alignment. The anteriormost (*i.e.* interorbital) predorsal scales of *A. nesolepis* exhibit an unusual orientation, featuring exposed anterior scale margins (Fig. 5B) that is characteristic of other members of the genus. The new species has a slightly modified arrangement (Fig. 5A), reminiscent of mosaic floor tiles, in which neither the anterior or posterior margin is clearly exposed with the exception of the anteriormost 1-3 scales. The new species also differs from *A. nesolepis* in usually having 31 vertebrae compared to usual counts of 28 or 29, with only eight of 79 specimens of *A. nesolepis* examined with 31 vertebrae.

The new species also differs from *A. nesolepis* and other congeners in possessing a unique colour pattern consisting of a series of relatively narrow bars. Although further studies are necessary to determine if *A. nesolepis* is actually a multi-species complex, individuals from the type locality (Tawarin River, about 120 km E of the provincial capital of Jayapura) lack bars, but instead have a distinctive midlateral, dark brown to blackish stripe (Fig. 4A). Allen and Coates (1990) recorded *A. nesolepis* (as *Mogurnda nesolepis*) from several localities in the Sepik River system based on specimens at WAM (see comparative material examined above). The Sepik River population is similar in general appearance to the fish shown in figure 4B, C.

Genetics

Although the new taxon lacks the typical *Allomogurnda* interorbital scale pattern as mentioned in the previous section, our placement of this species in this genus was confirmed by Peter Unmack (Univ. of Canberra, Australia; pers. comm.), who obtained genetic samples at the type locality in 2007. Subsequent sequencing of mitochondrial DNA indicates the species is nested among various populations (some of which will likely prove to be separate, undescribed species) of *A. nesolepis* and most closely related to the population from the Sepik River system. Unmack is currently studying phylogenetic relationships of all eleotrids from Australia and New Guinea, including further examination of the relationships of the new species with the aid of nuclear DNA sequencing.

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