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Description of two new species of Pseudochrominae from northern Palawan and Mindoro, Philippine Islands (Teleostei: Perciformes: Pseudochromidae)

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Abstract

Pseudochromis fuligifinis is described from 12 specimens from Verde Island, west coast of Mindoro and Apo Reef in the Philippines. It closely resembles *P. elongatus* Lubbock from Indonesia and *P. striatus* Gill, Shao & Chen from the Batanes Islands, Taiwan and the Ryukyu Islands, but differs in various meristic and coloration details. *Manonichthys scintilla* is described from five specimens from Coron Island and Apo Reef. It differs from congeners in fin shape and live coloration details.

Key words: *Pseudochromis*, *Manonichthys*, new species, systematics, Philippines, fish

Introduction

The Philippine Islands has a diverse ichthyofauna with over 3,017 marine fish species reported from the islands (Froese and Pauly, 2011). Recent fieldwork by the second author and associates has yielded several new species, including two new species of the pseudochromid subfamily Pseudochrominae. This subfamily was revised by Gill (2004), who recognised 80 species in 10 genera, though additional new species have been described subsequently (e.g., Allen & Erdmann 2007, Allen *et al*. 2008a, b, Gill & Allen 2004, 2011, Gill *et al.* 2009, Gill & Tanaka 2004, Gill & Zajonz 2011). We herein describe the new Philippine species, one of which belongs in *Pseudochromis* Rüppell and the other in *Manonichthys* Gill.

Material and methods

Methods of counting and measuring follow Gill (2004). In the descriptions of the new species, counts and measurements for the holotype are given first, followed (where variation was noted) by value ranges or frequency distributions for the paratypes in parentheses. Frequency distributions are given in the form "x fn", where "x" is a given meristic value, and "n" is its frequency (bilateral counts included where appropriate). Institutional codes follow Leviton *et al.* (1985). Comparisons with other pseudochromine species are based on materials listed in Gill (2004) and on four paratypes of *Manonichthys jamali* (USNM 389145, 2: 25.8–45.3 mm SL; WAM P.32854-001, 2: 43.7–52.9 mm SL).

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***Pseudochromis fuligifinis* new species**
Soot-tail Dottyback
Figures 1-4, Table 1

Holotype. PNM 15177 (from USNM 383120), 32.0 mm SL, Philippines, Mindoro Province, Verde Island, easternmost point on SE side where rocks emerge from water (hot water and bubbles coming out of rocks), 13°31.97' N, 121° 06.18' E, isolated pinnacle with dense coral cover and steep slope of hard and soft corals, 27–30 m, rotenone, J.T. Williams, M. Westneat, K. Carpenter, J.F. Finan, M. McGrouther, J. Janovetz, K. Parkinson, A Dantis and M. Santos, 28 May 2000 (field number MIN 00-42).

Paratypes. AMS I.40141-002, 30.9 mm SL, collected with holotype; ASU 19098, 23.8 mm SL, Philippines, Mindoro Province, Apo Reef, southern tip on outer reef, 12°37'01"N 120°29'24"E, coral, rubble field, some sand and soft corals, 5–33 m, J.T. Williams, M. Westneat, K. Carpenter, R. Mooi, *et al.*, 3 Mar 2003 (field number BUS 03-05); ASU 19099, 26.0 mm SL, cleared and stained, collected with ASU 19098; FMNH 120316, 32.1 mm SL, collected with holotype; FMNH 120317, 3: 13.5–20.4 mm SL, collected with ASU 19098; USNM 383121, 31.9 mm SL, collected with holotype; USNM 382745, 2: 23.1–32.3 mm SL, collected with ASU 19098; USNM 383122, 24.4 mm SL, Philippines, Mindoro Province, Mamburao Reef, 13°10'04"N 120°35'12"E, rocky slope, rubble and sandy flat with silt, 30 m, rotenone, J.T. Williams, M. Westneat, K. Carpenter, M. McGrouther, *et al.*, 3 June 2000 (field number MIN 00-62).

Diagnosis. *Pseudochromis fuligifinis* is distinguished from congeners by the following combination of characters: dorsal-fin rays III,25–26, with last 2–9 rays unbranched; anal-fin rays III,14–15 (usually III,15); circumpeduncular scales 16; dorsal-fin origin to pelvic-fin origin 23.4–25.9 % SL; horizontal scale rows below anterior lateral line 11–13; and caudal fin with sub-basal dark grey to black half-moon shaped marking on the caudal fin, with distal portion of fin posterior to dark spot and to distal tips of elongated dorsal and ventral lobes of fin sooty black.

Description (based on 12 specimens, 13.5–32.3 mm SL). Dorsal-fin rays III,25 (III,25 f4; III,26 f7), last 9 segmented rays branched (last 2–7 rays branched; no rays branched in 13.5 mm SL paratype); anal-fin rays III,14 (III,14 f1; III,15 f10), last 8 segmented rays branched (last 3–12 rays branched; no rays branched in 13.5 mm SL paratype); pectoral-fin rays 17/17 (16 f6; 17 16); upper procurrent caudal-fin rays 6 (6 f7; 7 f4); lower procurrent caudal-fin rays 6 (6 f10; 7 f1); total caudal-fin rays 29 (29 f7; 30 f3; 31 f1); scales in lateral series 37/37 (35 f6; 36 f9; 37 f4; 38 f2; 39 f1); anterior lateral-line scales 24/24 (20 f2; 21 f4; 22 f2; 23 f3; 24 f4; 25 f3; 26 f1; 27 f1); anterior lateral line terminating beneath segmented dorsal-fin ray 14/14 (12 f3; 13 f4; 14 f3; 15 f5; 16 f4; 17 f1); posterior lateral-line scales 6 + 0/6 + 0 (3–7 + 0–1; posterior lateral-line scales absent in three smallest paratypes, 13.5–20.4 mm SL); scales between lateral lines 4/4 (3 f2; 4 f18); horizontal scale rows above anal-fin origin 12 + 1 + 2/11 + 1 + 1 (11–13 + 1 + 1–3 = 13–17); circumpeduncular scales 16; predorsal scales 17 (14 f1; 15 f1; 16 f4; 17 f3; 18 f1; scales incompletely developed in 13.5 mm SL paratype); scales behind eye 2 (2 f6; 3 f4); scales to preopercular angle 4 (3 f3; 4 f7); gill rakers 4 + 10 (3 + 10 f1; 3 + 11 f1; 4 + 10 f4; 4 + 11 f5); pseudobranch filaments 7 (7 f8; 8 f3); circumorbital pores 19/19 (12–19); preopercular pores 9/10 (7–11); dentary pores 4/4; posterior interorbital pores 1 (0–1).

Lower lip incomplete; dorsal and anal fins without scale sheaths, although sometimes with intermittent scales overlapping fin bases; predorsal scales extending anteriorly to anterior AIO pores; opercle with 4 distinct serrations; teeth of outer ceratobranchial-1 gill rakers well developed on raker tips only; anterior dorsal-fin pterygiophore formula S/S/S + 3/1 + 1/1/1/1/1 + 1/1 (S/S/S + 3/1 + 1/1/1/1/1 + 1/1 f2; S/S/S + 3/1 + 1/1/1/1/1/1 + 1 f6; /S + S/S + 3/1 + 1/1/1/1/1/1 + 1 f1; /S + S/S + 3/1 + 1/1/1/1/1 + 1/1 f1; S/S/S + 3/1 + 1/1/1/1/1 + 1/1 + 1 f1); dorsal-fin spines moderately slender and pungent; anterior anal-fin pterygiophore formula 3/1 + 1/1/1 + 1/1/1 + 1 (3/1/1 + 1/1/1 + 1/1 f8; 3/1 + 1/1/1/1 + 1/1 f2); anal-fin spines stout and pungent, second spine much stouter than third; pelvic-fin spine varying from slender with weakly ossified tip to moderately slender with pungent tip; second segmented pelvic-fin ray usually longest, although sometimes sub-equal to third; caudal fin rounded with posterior margin truncate, sometimes in combination with prolongation of outer principal rays to give lyre-like shape; vertebrae 10 + 16; epineurals 13 (13 f2; 14 f5; 15 f2; not determined f2); epurals 3.

Upper jaw with 2–4 pairs of curved, enlarged caniniform teeth anteriorly, and 4–5 (at symphysis) to 1–2 (on sides of jaw) inner rows of small conical teeth, outermost of rows of conical teeth much larger and more curved than inner rows; lower jaw with 2–3 pairs of curved, enlarged caniniform teeth anteriorly, and 4–5 (at symphysis) to 1 (on sides of jaw) inner rows of small conical teeth, teeth on middle of jaw slightly larger and curved; vomer

with 1–2 rows of small conical teeth, forming chevron; palatine with 2–3 rows of small conical teeth arranged in elongate, suboval patch, anterior part of the tooth patch more-or-less contiguous with posterolateral arm of vomerine tooth patch; ectopterygoid edentate; tongue moderately pointed and edentate.

FIGURE 1. *Pseudochromis fuligifinis*, PNM 15177 (from USNM 383120), holotype, 32.0 mm SL, Verde Island, Mindoro Province, Philippines. (Photo by J.T. Williams)

FIGURE 2. *Pseudochromis fuligifinis*, USNM 382745, paratype, 32.3 mm SL, Apo Reef, Mindoro Province, Philippines. (Photo by J.T. Williams)

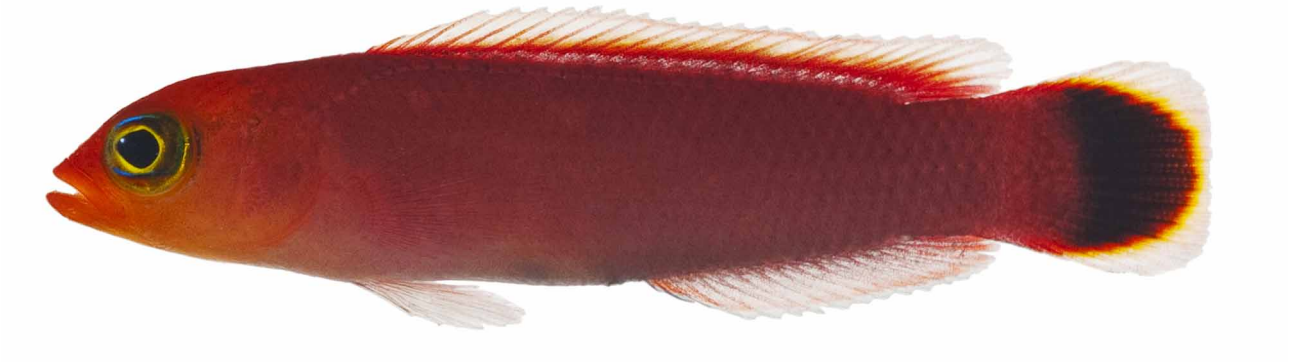

FIGURE 3. *Pseudochromis fuligifinis*, USNM 382745, paratype, 23.1 mm SL, Apo Reef, Mindoro Province, Philippines. (Photo by J.T. Williams).

As percentage of SL (based on holotype and 8 paratypes, 23.1–32.3 mm SL): head length 25.3 (24.6–28.1); orbit diameter 10.0 (8.7–11.1); snout length 5.9 (5.5–6.2); fleshy interorbital width 5.6 (4.9–5.9); bony interorbital width 3.8 (3.4–3.9); body width 12.2 (11.5–12.6); snout tip to posterior tip of retroarticular bone 12.8 (12.8–14.3); predorsal length 32.8 (31.9–34.8); prepelvic length 30.3 (30.7–32.7); posterior tip of retroarticular bone to pelvic-fin origin 18.8 (18.8–20.4); dorsal-fin origin to pelvic-fin origin 25.0 (23.4–25.9); dorsal-fin origin to middle dorsal-fin ray 32.8 (31.1–34.5); dorsal-fin origin to anal-fin origin 40.0 (38.6–40.8); pelvic-fin origin to anal-fin origin 30.9 (28.3–31.8); middle dorsal-fin ray to dorsal-fin termination 27.8 (24.8–26.6); middle dorsal-fin ray to anal-fin origin 22.8 (21.8–24.6); anal-fin origin to dorsal-fin termination 34.7 (32.5–34.8); anal-fin base length 27.8 (26.0–27.9); dorsal-fin termination to anal-fin termination 15.0 (13.9–15.2); dorsal-fin termination to caudal peduncle dorsal edge 11.3 (10.9–11.7); dorsal-fin termination to caudal peduncle ventral edge 18.4 (17.2–19.6); anal-fin termination to caudal peduncle dorsal edge 19.7 (18.9–20.4); anal-fin termination to caudal peduncle ventral edge 12.5 (11.6–12.7); first dorsal-fin spine 1.3 (0.9–2.0); second dorsal-fin spine 3.4 (3.4–5.0); third dorsal-fin spine 6.3 (5.3–7.0); first segmented dorsal-fin ray 11.6 (8.8–11.8); fourth last segmented dorsal-fin ray 15.6 (13.6–18.0); first anal-fin spine 1.9 (1.6–2.2); second anal-fin spine 5.3 (5.0–5.9); third anal-fin spine 6.3 (4.4–7.0); first segmented anal-fin ray 10.6 (8.8–10.8); fourth last segmented anal-fin ray 16.9 (13.5–17.3); third pectoral-fin ray 15.0 (12.9–15.2); pelvic-fin spine 8.8 (7.8–9.8); second segmented pelvic-fin ray 22.2 (16.9–19.5); caudal-fin length 24.7 (20.6–24.8).

Freshly dead coloration (based on photographs of specimens from Verde Island and Apo Reef (Mindoro Province); Figs. 1–3): Brown colour form with head yellowish brown becoming greyish yellow on cheeks, lips and chin; body brown, becoming whitish tan ventrally on chest and abdomen; mid-posterior portion of orbital rim with black crescent, posterodorsal portion of crescent with posteriorly directed dusky bar extending to about preopercle, ventral part of crescent with pinkish line extending anteriorly from black marking, along ventral orbital rim to angle of mouth; mid-basal portion of operculum with several short reddish horizontal lines; iris yellowish brown to bright yellow with blue sub-oval ring; body scales with dark brown centers giving appearance of broken longitudinal lines along body; dorsal fin either blackish with broad yellow stripe basally from dorsal-fin origin to about ray 10 to 12, with small pinkish spot at base of each spine from this point posteriorly, narrow reddish sub-marginal stripe extending length of fin, remainder of fin dusky to black, sometimes with faint dark spots in central portion of fin; anal fin greyish to black with narrow pale pink basal stripe and narrow pale pink sub-distal stripe; caudal fin with basal half dark brown to purplish grey, posterior half with large half-moon shaped black spot outlined posteriorly with narrow orange-yellow border, distal portion of caudal fin sooty black posterior to large spot and to distal tips of elongated dorsal and ventral lobes of caudal fin; pectoral-fin pinkish to reddish with membranes translucent; pelvic fins dusky with pinkish tint.

Pinkish red colour form with head pinkish yellow to brilliant orange-red, upper part of head, lips and sometimes lower part of head pinkish yellow to bright reddish orange; mid-posterior edge of orbital rim with black streak as described above for brown form, but with pale blue line instead of pinkish line ventrally; mid-basal portion of operculum with several short purplish red horizontal lines; iris yellowish orange to bright yellow with blue sub-oval ring; body pinkish brown to maroon red becoming pinkish white or pinkish red ventrally on chest and abdomen; body scales brown with pale pinkish centers; dorsal fin bright pinkish red basally followed by pinkish grey stripe, then bright red stripe, distal half of fin yellowish and pinkish hyaline to hyaline with dark grey marginal stripe; anal fin either pinkish hyaline with pale distal margin, or purplish grey basally, becoming pinkish hyaline distally, with narrow greyish marginal stripe; caudal fin similar to dark form except basal half reddish brown to red; pectoral and pelvic fins as described for dark form.

Preserved coloration: Head and body pale brown to brown; short black crescent behind eye as described for fresh colour; body scales slightly dusky basally with faint dark lines barely evident; dorsal fin either sooty black or hyaline to pale with dark grey basal stripe; anal fin dusky or hyaline; caudal fin with basal half brown and black half-moon shaped spot over most of distal half, margins and elongate dorsal and ventral lobes sooty black or with scattered melanophores; pectoral and pelvic fins dusky hyaline.

Habitat and distribution. *Pseudochromis fuligifinis* is known only from Verde Island, west coast of Mindoro and Apo Reef in the Philippines. It was collected from coral reef slopes and dropoffs at depths as deep as 33 m.

Comparisons. *Pseudochromis fuligifinis* mostly resembles *P. elongatus* Lubbock (1980) from Indonesia and *P. striatus* Gill, Shao & Chen (1995) from the Batanes Islands, Taiwan and the Ryukyu Islands, and keys to the couplet (number 46) differentiating the two species in Gill's (2004) key to *Pseudochromis* species. The three species

are distinguished from all other pseudochromines in having 25–27 segmented dorsal-fin rays with the last 2–9 rays unbranched, 14–15 (usually 15) segmented anal-fin rays, 16 circumpeduncular scales, a slender body (dorsal-fin origin to pelvic-fin origin 21.9–25.9 % SL), and a sub-basal dark grey to black half-moon shaped marking on the caudal fin. *Pseudochromis fuligifinis* differs from *P. striatus* in having more horizontal scale rows below the anterior lateral line (11–13 versus 9–10), and faint dusky stripes on the body (versus five to nine clearly defined dark stripes on alternating scale rows). It is similar to *P. elongatus*, but is distinguished by several characters: head colour not contrasting sharply with body colour (vs. red to yellow head abruptly contrasting with brown to grey body); dark form with yellow stripe basally in dorsal fin (vs. no yellow stripe basally); distal border of caudal fin sooty black (vs. hyaline or with scattered melanophores distally on tips of ventral caudal rays); and total caudal-fin elements modally 29 (vs. modally 31; Table 1).

Remarks. *Pseudochromis fuligifinis* is a small species; the largest specimen examined measures 32.3 mm SL.

Etymology. The specific epithet *fuligifinis* is a combination of the Latin *fuligo*, meaning soot, and the Latin *finis*, meaning end. It refers to the sooty appearance of the distal ends of the caudal-fin rays. To be considered a noun in apposition.

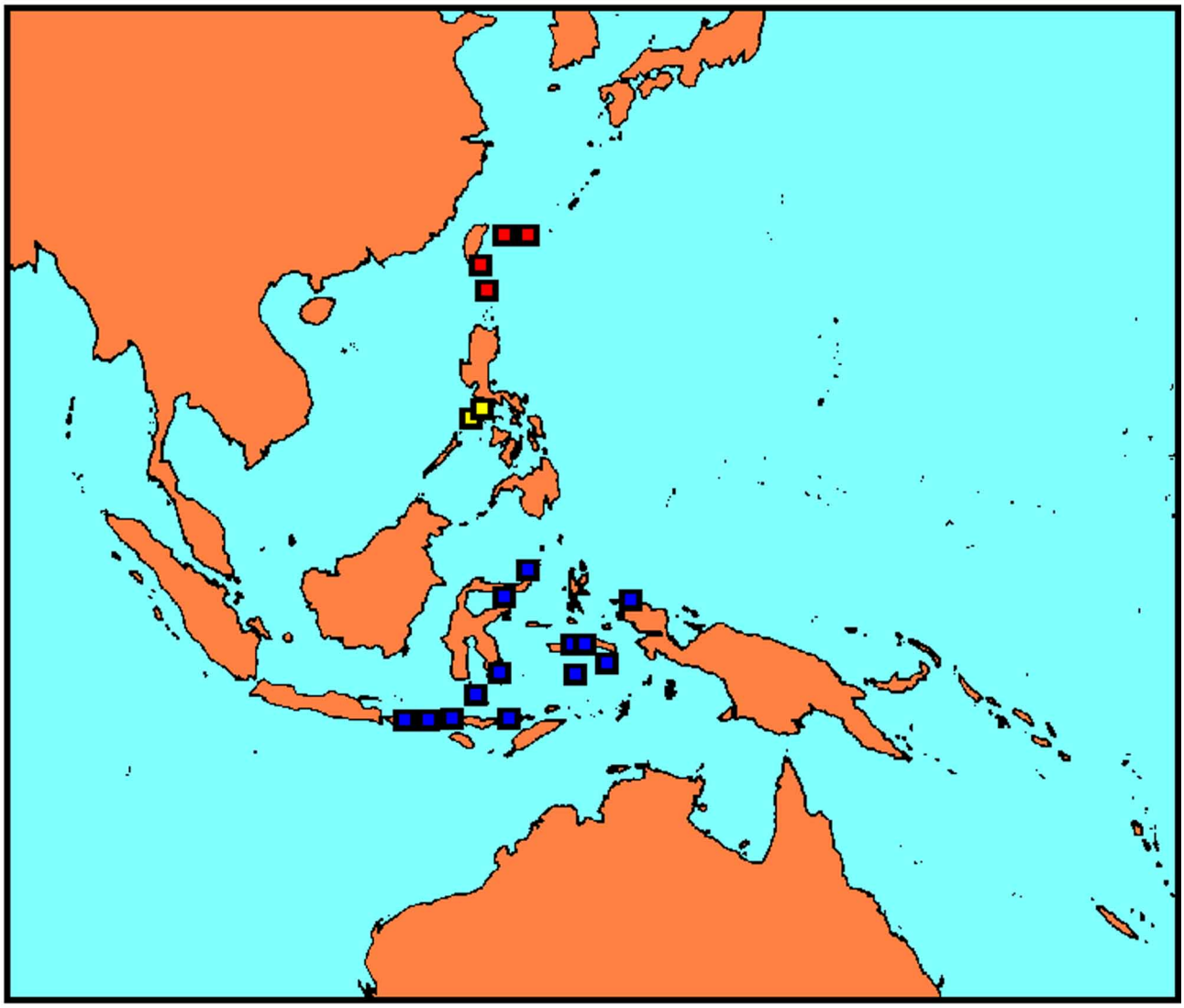

FIGURE 4. Distribution records for *Pseudochromis elongatus* (blue squares), *P. fuligifinis* (yellow squares) and *P. striatus* (red squares) (based in part on Gill, 2004: fig. 38).

TABLE 1. Frequency distributions of counts of caudal-fin rays for *Pseudochromis elongatus* and *P. fuligifinis*. Data for *P. elongatus* are from Gill (2004).

	Upper procurrent caudal-fin rays			Lower procurrent caudal-fin rays		
	6	7	8	5	6	7
P. elongatus	2	18	1	1	4	16
P. fuligifinis	8	4	-	-	11	1
	Total caudal-fin rays					
	28	29	30	31	32	
P. elongatus	1	-	5	14	1	
P. fuligifinis	-	8	3	1	-	

***Manonichthys scintilla* new species**
Sparkfin Dottyback
Figures 5–6, Table 2

Holotype. PNM 15176 (from USNM 382743), 27.4 mm SL, Philippines, Mindoro Province, Apo Reef, southern tip on outer reef, coral, rubble field, some sand and soft corals, 5–33 m, J.T. Williams, M. Westneat, K. Carpenter, R. Mooi *et al.*, 3 Mar 2003 (field number BUS 03-05).

Paratypes. ASU 19100, 28.8 mm SL (subsequently cleared and stained), Philippines, Palawan Province, Coron Island, 11°48'58"N 120°15'11"E, outer reef drop off with rock and coral wall to sand and rubble at base, 15–31 m, J.T. Williams, M. Westneat, K. Carpenter, R. Mooi, *et al.*, 7 March 2003 (field number BUS 03-18); FMNH 120315, 2: 23.6–24.6 mm SL, collected with ASU 19100; USNM 382744, 31.5 mm SL, Philippines, Mindoro Province, Apo Reef at north-east tip, 12°41'32"N 120°31'19"E, back reef inside lagoon on live and dead coral with some sand, 2–17 m, J.T. Williams *et al.*, 2 March 2003 (field number BUS 03-01).

Diagnosis. *Manonichthys scintilla* is distinguished from congeners by the following characters in combination: scales to preopercular angle 3–4; second segmented pelvic-fin ray longest; no dark eye stripe on head; no dark bar on posterior body; pelvic fin with red to orange coloration indistinct and confined to distal part of fin; and caudal fin rounded with posterior margin truncate.

Description (based on five specimens, 23.6–31.5 mm SL). Dorsal-fin rays III,28, last 8 (6–7) segmented rays branched; anal-fin rays III,15, last 12 (7–12) segmented rays branched; pectoral-fin rays 17/17 (17 f5; 18 f3); upper procurrent caudal-fin rays 6; lower procurrent caudal-fin rays 6; total caudal-fin rays 29; scales in lateral series 39/38 (35 f1; 36 f1; 37 f3; 38 f3); anterior lateral-line scales 26/27 (22 f3; 23 f1; 24 f3; 27 f1); anterior lateral line terminating beneath segmented dorsal-fin ray 17/18 (13 f1; 14 f1; 15 f3; 16 f2; 18 f1); posterior lateral-line scales 9 + 1/7 + 0 (4–7 +0); scales between lateral lines 4/4; horizontal scale rows above anal-fin origin 12 + 1 + 3/13 + 1 + 3 (12–13 + 1 + 2–3 = 15–17); circumpeduncular scales 16; predorsal scales 19 (17 f1; 18 f1; 19 f2); scales behind eye 2 (2 f1; 3 f3); scales to preopercular angle 4 (3 f1; 4 f3); gill rakers 5 + 12; pseudobranch filaments 8 (7 f1; 8 f3); circumorbital pores 16/16 (17–20); preopercular pores 9/9 (9–10); dentary pores 4/4; posterior interorbital pores 1.

Lower lip incomplete; dorsal and anal fins without well-developed scale sheaths, although sometimes with intermittent scales overlapping fin bases; predorsal scales extending anteriorly to point ranging from anterior AIO pores to posterior nasal pores; opercle with 4–5 relatively well-developed serrations; teeth of outer ceratobranchial-1 gill rakers well developed mainly on tips only; anterior dorsal-fin pterygiophore formula S/S/S + 3 + 1/1 + 1/1/1 (S/S/S + 3 + 1/1 + 1/1/1 f3; S/S/S + 3 + 1/1/1 + 1/1 f1); dorsal-fin spines moderately stout and pungent; anterior anal-fin pterygiophore formula 3/1/1 + 1/1/1 + 1/1 (3/1/1 + 1/1/1 + 1/1 f2; 3/1/1 + 1/1/1 + 1/1 + 1 f2); anal-fin spines moderately stout to stout and pungent, second spine much stouter than third; pelvic-fin spine moderately stout to stout and pungent; second segmented pelvic-fin ray longest; caudal fin rounded with truncate posterior margin; vertebrae 10 + 16; epineurals 14 (12 f1; 13 f3); epurals 3.

Upper jaw with 3–4 pairs of curved, enlarged caniniform teeth anteriorly, and 4–5 (at symphysis) to 1–2 (on sides of jaw) inner rows of small conical teeth, outermost of rows of conical teeth much larger and more curved than inner rows; lower jaw with 2–4 pairs of curved, enlarged caniniform teeth anteriorly, and 3–4 (at symphysis)

to 1 (on sides of jaw) inner rows of small conical teeth, teeth on middle of jaw larger and curved; vomer with 2–3 rows of small conical teeth, forming chevron; palatine with 1–3 rows of small conical teeth arranged in elongate, suboval patch, anterior part of tooth patch more-or-less contiguous with posterolateral arm of vomerine tooth patch; ectopterygoid edentate; tongue moderately pointed and edentate.

As percentage of SL: head length 29.2 (27.6–29.3); orbit diameter 10.6 (10.8–11.1); snout length 6.2 (6.1–6.7); fleshy interorbital width 5.5 (5.7–6.4); bony interorbital width 3.6 (3.8–4.1); body width 13.1 (11.5–13.0); snout tip to posterior tip of retroarticular bone 15.3 (15.3–15.9); predorsal length 34.3 (33.0–35.6); prepelvic length 33.2 (32.6–34.9); posterior tip of retroarticular bone to pelvic-fin origin 19.3 (18.1–21.6); dorsal-fin origin to pelvic-fin origin 29.6 (28.3–30.1); dorsal-fin origin to middle dorsal-fin ray 33.9 (31.7–33.7); dorsal-fin origin to anal-fin origin 43.8 (41.5–42.4); pelvic-fin origin to anal-fin origin 29.9 (28.5–29.5); middle dorsal-fin ray to dorsal-fin termination 28.5 (25.4–28.1); middle dorsal-fin ray to anal-fin origin 27.7 (25.3–27.5); anal-fin origin to dorsal-fin termination 34.7 (33.3–35.2); anal-fin base length 26.6 (26.0–27.1); dorsal-fin termination to anal-fin termination 15.7 (13.4–15.7); dorsal-fin termination to caudal peduncle dorsal edge 10.9 (9.8–11.1); dorsal-fin termination to caudal peduncle ventral edge 19.3 (16.2–17.8); anal-fin termination to caudal peduncle dorsal edge 20.4 (18.1–19.9); anal-fin termination to caudal peduncle ventral edge 12.0 (11.4–13.6); first dorsal-fin spine 2.9 (2.8–3.3); second dorsal-fin spine 7.3 (6.9–7.6); third dorsal-fin spine 9.5 (9.3–9.8); first segmented dorsal-fin ray 13.1 (11.4–14.6); fourth last segmented dorsal-fin ray 16.8 (15.6–17.4); first anal-fin spine 4.0 (3.3–4.4); second anal-fin spine 9.9 (8.9–10.8); third anal-fin spine 9.9 (8.9–10.5); first segmented anal-fin ray 13.1 (12.5–13.4); fourth last segmented anal-fin ray 16.4 (14.4–15.6); third pectoral-fin ray 16.8 (15.7–16.7); pelvic-fin spine 12.8 (12.4–12.7); second segmented pelvic-fin ray 24.1 (21.5–23.3); caudal-fin length 25.2 (24.1–25.0).

FIGURE 5. *Manonichthys scintilla*, USNM 382744, paratype, 31.5 mm SL, Apo Reef, Mindoro Province, Philippines. (Photo by J.T. Williams)

Live coloration (based on photographs of paratypes from Coron Island (Palawan Province) and Apo Reef (Mindoro Province); Figure 5): head greyish blue, darker dorsally, becoming maroon to purplish blue on operculum; iris bluish or reddish grey to bright red, with bright blue suboval ring around pupil; breast and dorsal half of body dark bluish to purplish grey; scales of dorsal part of body each with bright yellow central spot, spots becoming larger ventrally so that grey coloration is reduced to series of stripes along dorsal and ventral edges of horizontal scale rows, and ventral part of body is bright yellow; caudal peduncle bright yellow, with grey edging on some scales; basal third to half of dorsal fin blue-black with one to three horizontal to oblique rows of white to pale blue or pale orange horizontally elongate spots; distal half to two-thirds of fin greyish hyaline, with grey distal margin; anal fin bright yellow, abruptly hyaline on distal third to two-thirds of fin; caudal fin bright yellow basally, with distal margin abruptly hyaline; pectoral fins yellowish hyaline; pelvic fins bright yellow, with fin membranes indistinctly reddish to orange on distal part of fin, and anterior and distal margins grey.

Preserved coloration: pattern similar to live coloration, the blue and grey areas on head and body becoming brown to dark grey-brown; bright yellow areas on head and body become pale yellow to pale brown; blue and dark markings on fins become grey-brown to black; white, yellow, orange and red markings on fins become pale yellow to pale brown.

Habitat and distribution. *Manonichthys scintilla* is known only from Apo Reef (Mindoro Province) and Coron Island (Palawan Province) (Fig. 6). It has been collected from outer reefs and lagoons in 2 to 33 m. Species of *Manonichthys* facultatively enter large sponges. However, no large sponges were observed at the collection sites.

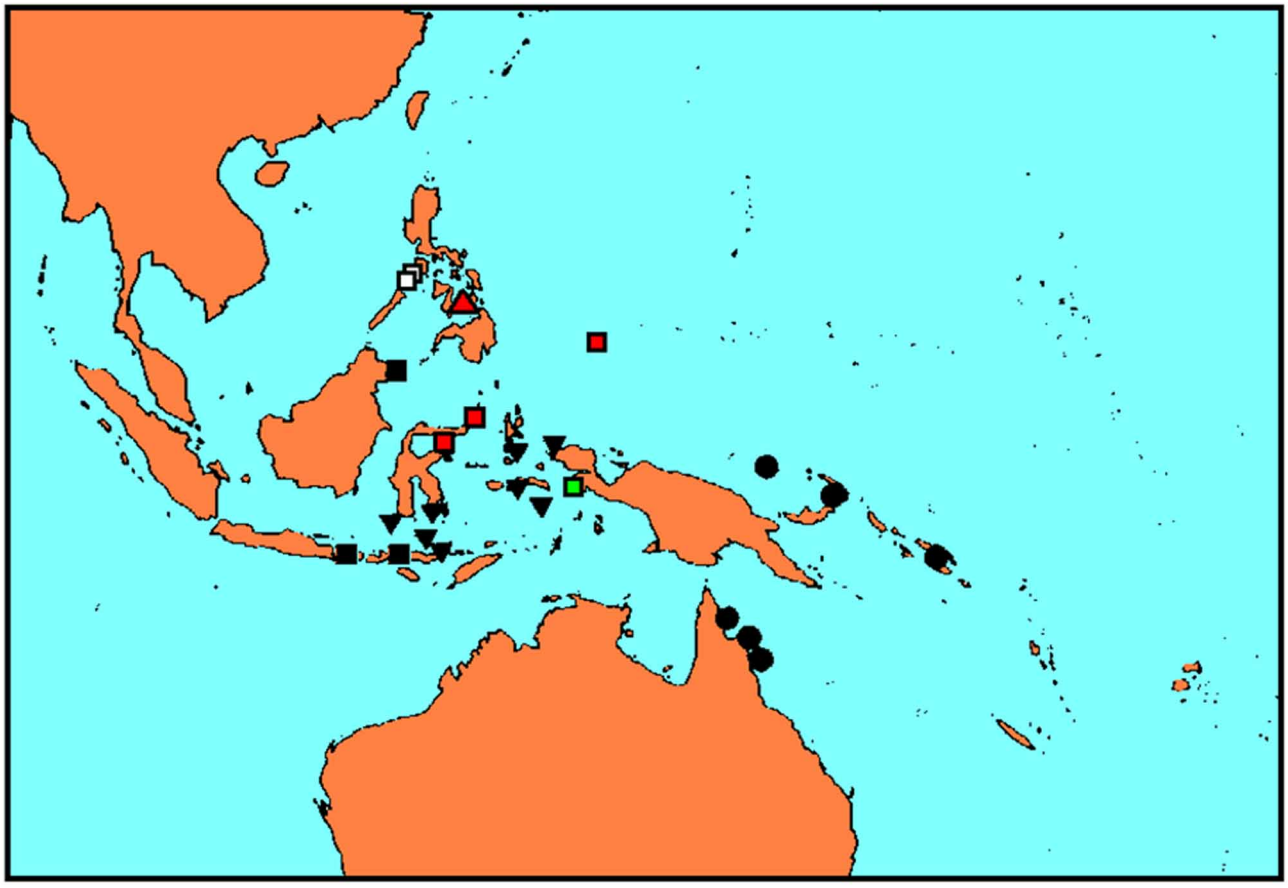

FIGURE 6. Distribution records for species of *Manonichthys*: *M. alleni* (black squares), *M. jamali* (green square), *M. paranox* (black dots), *M. polynemus* (red squares), *M. scintilla* (white squares), *M. splendens* (black triangles) and *M. winterbottomi* (red triangle) (based in part on Gill, 2004: fig. 14).

Comparisons. Species of *Manonichthys* are distinguished from other pseudochromine genera in having in combination an incomplete lower lip and an anterior dorsal-fin pterygiophore formula of S*/S/S + 3 + 1*/1 + 1* (usually with four pterygiophores inserting anterior to neural spine 4). Gill (2004) included five species in the genus: *M. alleni* Gill (2004) from Sabah, Borneo; *M. paranox* (Lubbock & Goldman, 1976) from the Great Barrier Reef, Solomon Islands and Papua New Guinea; *M. polynemus* (Fowler, 1931) from Sulawesi and Belau; *M. splendens* (Fowler, 1931) from eastern Indonesia; and *M. winterbottomi* Gill (2004) from Cebu, Philippines. Since Gill's publication, specimens tentatively identified as *M. alleni* have been collected from Bali and Komodo, Indonesia, and an additional species, *M. jamali* Allen & Erdmann (2007), has been described from southwestern Irian Jaya. The seven species are thus distributed allopatrically throughout the Indo-Australian Archipelago (Figure 6). Recent discoveries also necessitate the discussion of some characters used by Gill (2004) to differentiate species in the genus. In the first couplet of his key to species in the genus, among other characters, Gill used black pectoral-fin coloration to distinguish *M. paranox* and *M. winterbottomi* from the remaining species; in comparing the two species to other *Manonichthys* species, he further noted that they were distinctive in having darker body coloration. However, photographs received by the first author from H. Tanaka and R.H. Kuiter indicate that large specimens of *M. alleni* may become dark grey with entirely or partially black pectoral fins. Moreover, it appears that juvenile specimens of *M. winterbottomi* may have a live coloration more similar to other species (including *M. scintilla*). According to the late H.R. Lubbock's unpublished field notes, *Manonichthys winterbottomi* (as "*Pseudochromis* cf. *paranox*") were seen swimming near smaller individuals of "*P. splendens*," with which they were "most likely conspecific." In the same station that yielded the paratypes of *M. winterbottomi* (field number RL 14-6a, Moalboal,

Cebu), Lubbock collected one specimen of "*P. splendens*," which, according to his notes, was subsequently photographed then lost. In 1987, H. Debelius gave the first author a colour transparency taken by Lubbock, which is probably of the lost specimen. Unfortunately, the slide had been remounted, and Lubbock's annotations on the original slide mount had not been recorded. However, it does not match any other specimen mentioned in Lubbock notes. It closely resembles *M. scintilla*, and is reproduced here in Figure 7 for comparison.

FIGURE 7. Photo of probable juvenile *Manonichthys winterbottomi*, Moalboal, Cebu, Philippines. (Photo by H.R. Lubbock).

Characters useful in distinguishing species of *Manonichthys* are summarised in Table 2. *Manonichthys scintilla* is most similar to *M. alleni* and *M. winterbottomi* (assuming our identification of the specimen in Fig. 7 is correct). It differs from *M. alleni* in the coloration of the pelvic fins; in *M. alleni* red coloration is present as one or two prominent crimson spots near the base of the fin (see Gill, 2004: pls 2D and 2E), whereas in *M. scintilla* red coloration is diffuse and confined to the distal part of the fin. Similarly, red coloration in the presumed juvenile of *M. winterbottomi* is more intense than in *M. scintilla*, although it is also positioned on the distal part of the fin. *Manonichthys scintilla* further differs from *M. winterbottomi* in having the second (rather than the third) segmented pelvic ray longest, the caudal fin rounded with a truncate posterior margin (versus rounded), and fewer scales to preopercular angle (3–4 versus 5–7).

Remarks. The type specimens of *M. scintilla* (largest specimen 31.5 mm SL) are small compared with the largest known specimens of congeners (largest specimens 50.6–80.0 mm SL), and are probably juveniles. It is likely that the species will show similar ontogenetic variation in body coloration to that shown by other species (except for *M. paranox*, which is uniformly black as both juveniles and adults). Generally in juvenile *Manonichthys* the dorsal part of the body is grey and each scale has a bright yellow central spot, which become larger ventrally so that the grey coloration is reduced to a series of stripes along the dorsal and ventral edges of each horizontal scale row, and the ventral part of body is bright yellow. In larger specimens, the grey stripes become wider and extend farther ventrally, so that the entire ventral part of body of larger specimens is grey with small yellow spots on the centre of each scale. If so, it is possible that large specimens may approach the dark coloration shown by adult *M. winterbottomi*. We note, however, that the largest known specimen of *M. scintilla* is of similar size to the smallest paratype of *M. winterbottomi* (30.1 mm SL), which has a dark body and pectoral fins.

Etymology. The specific epithet is from the Latin meaning spark, glimmer or trace, and alludes to the small amount of red coloration in the pelvic fins (when compared with other *Manonichthys* species with red pelvic-fin markings). It is treated as a noun in apposition.

TABLE 2. Summary of characters distinguishing *Manonichthys* species.

Species	Pectoral-fin coloration	Dark eye stripe	Red/yellow coloration on pelvic fins	Dark bar on posterior body
M. alleni	hyaline, dark in some adults	absent	1 or 2, large irregular crimson spots near anterior base of fins	absent
M. jamali	hyaline	absent	absent	present
M. paranox	black	absent	red patch sometimes present on anterior base	absent
M. polynemus	hyaline	absent	large red or yellow patch basally behind 2nd ray	absent
M. scintilla	hyaline	absent	indistinctly reddish to orange distally	absent
M. splendens	hyaline	present	absent	absent
M. winterbottomi	black, possibly hyaline in juveniles	absent	presumed juvenile with pronounced red distally	absent

Species	Caudal-fin shape	Longest pelvic-fin ray	Circumpeduncular scales	Scales to preopercular angle
M. alleni	rounded to truncate or emarginate	second or third	16	4–5
M. jamali	emarginate	second	16–18 (us. 16)	5–6
M. paranox	rounded	second or third	18–21	4–7
M. polynemus	emarginate in juveniles, lunate in adults	second	16–17 (us. 16)	5–7
M. scintilla	rounded, truncate posteriorly	second	16	3–4
M. splendens	rounded, sometimes truncate posteriorly	second (juveniles) or third (adults)	16–17 (us. 16)	5–7
M. winterbottomi	rounded	third	16	5–7

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