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Pseudoplesiops wassi, a new species of dottyback fish (Teleostei: Pseudochromidae: Pseudoplesiopinae) from the West Pacific

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Abstract

Pseudoplesiops wassi is described from 34 specimens, 17.7–28.8 mm SL, from throughout the West Pacific. It is closely related to *P. collare* from Indonesia, with which it shares 14 precaudal vertebrae (more than any other congener). It is distinguished from *P. collare* and all other congeners in having the following combination of characters: dorsal-fin rays I,27–29, usually I,28; pelvic-fin rays I,3; scales in lateral series 32–39, usually 33–36; and circumpeduncular scales 16.

Keywords: Pseudochromidae, Pseudoplesiopinae, *Pseudoplesiops wassi* new species, taxonomy

Introduction

Fishes of the Indo-Pacific subfamily Pseudoplesiopinae are distinguished from other pseudochromids in having a single tubed scale at the gill opening, rather than a series of tubed scales. Five genera are recognised in the subfamily. *Pseudoplesiops* Bleeker is diagnosed by a single synapomorphy - medial laminae of the pelvic bones expanded dorsally - and the following combination of external characters: scales in lateral series 26–42; lower lip complete (uninterrupted at symphysis); and preopercular pores usually 7 (rarely 6 or 8), with a pore present at the upper terminus of the preopercle (Gill & Edwards, 1999). The genus is mostly confined to the eastern Indian and Pacific Oceans, though two recently described species occur in the Maldive Islands, central Indian Ocean (Gill & Edwards, 2002). As part of an ongoing revision of the genus, we herein describe a new species from the West Pacific in order to make its name available for a forthcoming guide to South Pacific fishes (Randall, in press).

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Materials and methods

Institutional codes follow Leviton et al. (1985). Methods of counting and measuring follow Gill and Edwards (2002). Osteological details were determined from radiographs and one cleared-and-stained paratype, which was prepared following the methods of Taylor and Van Dyke (1985). Counts and measurements are given as values or value ranges for all type specimens, followed, where variation was noted, by values for the holotype in parentheses. Where counts were recorded bilaterally, both counts are presented for the holotype, separated by a slash; the first count given is the left count.

Pseudoplesiops wassi new species

Fleckfin Dottyback

(Figures 1–2)

Pseudoplesiops sp.; Wass, 1984: 12 (description; Samoa); Zug et al., 1989: 13 (list; Rotuma).
Pseudoplesiops sp. 2; Gill and Edwards, 1999: 144 (list of osteological specimens); Gill, 1999: 2560 (key).

Holotype: USNM 363283, 25.0 mm SL, Vanuatu, Banks Islands, Mota Lava Island, Milli Bay, 13°40'19"S 167°39'04"E, surge channels on reef slope, heavily scoured bottom with coral in channels, 22.5–27 m, J.T. Williams et al., 18 May 1997.

Paratypes: AMS I.22584-032, 1: 22.4 mm SL, Australia, Great Barrier Reef, Escape Reef North, outer barrier, 15°49'S 145°50'E, 30–42 m, AMS party, 29 October 1981; AMS I.25107-066, 1: 25.9 mm SL, Australia, Coral Sea, Osprey Reef, west edge, 13°56'S 146°34'E, dropoff, 10–25 m, AMS party, 6 November 1984; AMS I.25112-001, 1: 23.0 mm SL, Australia, Coral Sea, Osprey Reef, west edge, 0.75 km north of pass, 13°54'S 146°33'E, 1–15 m, AMS party, 8 November 1984; AMS I.33731-084, 3: 21.9–24.3 mm SL, Australia, Coral Sea, Ashmore Reef, western side, 10°13.16'S 144°24.89'E, outer reef wall/slope, 9–18 m, M. McGrouther et al., 22 January 1993; BMNH 1999.1.4.17, 1: 22.6 mm SL (cleared and stained), American Samoa, Tutuila Island, Larsen Bay, rocky slope with some coral and caves on to sand, 45–60 m, R. Lubbock and R. Wass, 6 March 1975; BMNH 2003.1.22.10–14, 5: 19.3–25.5 mm SL, collected with BMNH 1999.1.4.17; BMNH 2003.1.22.15, 1: 23.5 mm SL, Amerian Samoa, Tutuila Island, Steps Point, caves on vertical reef face, 30–40 m, R. Lubbock and R. Wass, 4 March 1975; BMNH 2003.1.22.16, 1: 27.2 mm SL, Fiji, Viti Levu, Suva, ca. 800 m west of Rat Tail Passage, coral and rocks on sand, 40–60 m, R. Lubbock and B. Goldman, 13 March 1975; BMNH 2003.1.22.17, 1: 25.4 mm SL, Fiji, Viti Levu, Suva, ca. 1 km west of Rat Tail Passage, coral and rocks on sand, 25 m, R. Lubbock and B. Goldman, 15 March 1975; BPBM 38969, 1: 25.0 mm SL, Fiji, Charybdis Reef, 17°12.77'S 178°04.11'E, base of steep dropoff, 17 m, rotenone, D.W. Greenfield et al., 13 March 2002; USNM 223334, 3: 17.7–

22.1 mm SL, Caroline Islands, Pohnpei, ocean side of Nankapenparam Reef, 07°02'N 158°14'E, 36–44 m, V.G. Springer et al., 9 September 1980; USNM 242110, 2: 19.3–25.9 mm SL, Fiji, Lau Islands, Navutu Ira, northwest corner of barrier reef, 18°55'S 178°33'W, rock and sand, 30–36 m, V.G. Springer et al., 3 May 1982; USNM 259385, 4: 20.2–26.8 mm SL, Fiji, southwest margin of Charybdis Reef, 17°12'S 178°00'E, patch reef, dead coral slope, 30–36 m, V.G. Springer et al., 29 May 1982; USNM 283437, 3: 22.3-26.5 mm SL, Fiji, Rotuma, reef north of Motusa, 12°30'S 177°05'E, rock and coral heads, 0–41 m, V.G. Springer et al., 17 May 1986; USNM 287661, 1: 27.3 mm SL, Fiji, north coast of Rotuma, 12°30'S 177°05'E, rock and coral patch reef surrounded by rubble, 27–31 m, rotenone, V.G. Springer et al., 20 May 1986; USNM 290446, 1: 19.5 mm SL, Papua New Guinea, Hermit Islands, Amot Island, reef dropoff on ocean side of reef, 01°33'S 144°59'E, 0–46 m, V.G. Springer et al., 31 October 1978; USNM 292059, 2: 21.7–22.6 mm SL, Papua New Guinea, Hermit Islands, Pechu Island, 01°35'24"S 145°01'36"E, 0-33 m, V.G. Springer et al., 5 November 1978; USNM 338527, 1: 28.8 mm SL, Tonga, Vava'u Group, Vava'u Island, port refuge on west side of island, 18°38'23"S 174°04'01"W, steeply sloping rocky bottom with slight channel, 25.5–34.5 m, J.T. Williams et al., 18 November 1993.

Diagnosis. A species of *Pseudoplesiops* with the following combination of characters: dorsal-fin rays I,27–29, usually I,28; pelvic-fin rays I,3; scales in lateral series 32–39, usually 33–36; and circumpeduncular scales 16.

Description (based on 34 specimens, 17.7–28.8 mm SL). Dorsal-fin rays I,27–29 (I,28), last 4–9 (6) segmented rays branched; anal-fin rays I–II,16–18 (I,17), last 3–8 (3) segmented rays branched; pectoral-fin rays 16–18 (17/17), upper 2–4 (3/3) and lower 1–4 (2/2) rays unbranched; pelvic-fin rays I,3, all segmented rays simple; principal caudal-fin rays 9 + 8, the uppermost 1–2 (1) and lowermost 1–2 (1) rays unbranched; upper procurrent caudal-fin rays 3–4 (4); lower procurrent caudal-fin rays 3–4 (3); total caudal-fin rays 23–25 (24); scales in lateral series 32-39 (34/34); predorsal scales 6-9 (6); transverse scales 12–14 (12/12); scales behind eye 1–3 (2); scales to preopercular angle 2–4 (3); circumpeduncular scales 16; ctenoid scales beginning at 7–13 (?/8) transverse scale rows behind gill opening; gill rakers 2–4 + 8–13 = 10-17 (2 + 10); pseudobranch filaments 5–7 (5).

Head pores (all bilaterally paired except posterior interorbital pores): nasal pores 2; anterior interorbital pores 1; posterior interorbital pores 0; supraotic pores 2; suborbital pores 8; posterior otic pores 0; preopercular pores 6–7 (7/7); dentary pores 4; intertemporal pores 1; anterior temporal pores 0; posttemporal pores 1; parietal pores 2.

As percentage of standard length (based on 24 specimens, 19.2–28.8 mm SL): body depth at dorsal-fin origin 20.9–25.9 (23.2); greatest body depth 21.3–28.8 (25.6); body width 10.1–13.1 (11.6); head length 28.5–33.9 (31.2); snout length 4.8–6.1 (5.6); orbit diameter 8.6–11.5 (10.0); interorbital width 2.6–4.0 (3.2); upper jaw length 9.7–11.5 (10.0); caudal peduncle depth 11.2–14.3 (13.2); caudal peduncle length 6.7–8.7 (8.0); pre-

dorsal length 29.7–33.5 (32.4); preanal length 57.4–60.8 (60.8); prepelvic length 26.8–31.6 (29.6); first segmented dorsal-fin ray length 6.8-10.0 (10.0); third from last segmented dorsal-fin ray length 12.8–19.5 (18.4); dorsal-fin base length 61.6–66.8 (61.6); first segmented anal-fin ray length 5.9–11.2 (9.2); third from last anal-fin ray length 15.2–19.1 (18.0); anal-fin base length 31.2–36.0 (34.8); caudal fin length 22.9–26.0 (26.0); pectoral fin length 20.1–23.5 (22.8); pelvic fin length 26.5–37.5 (36.0).

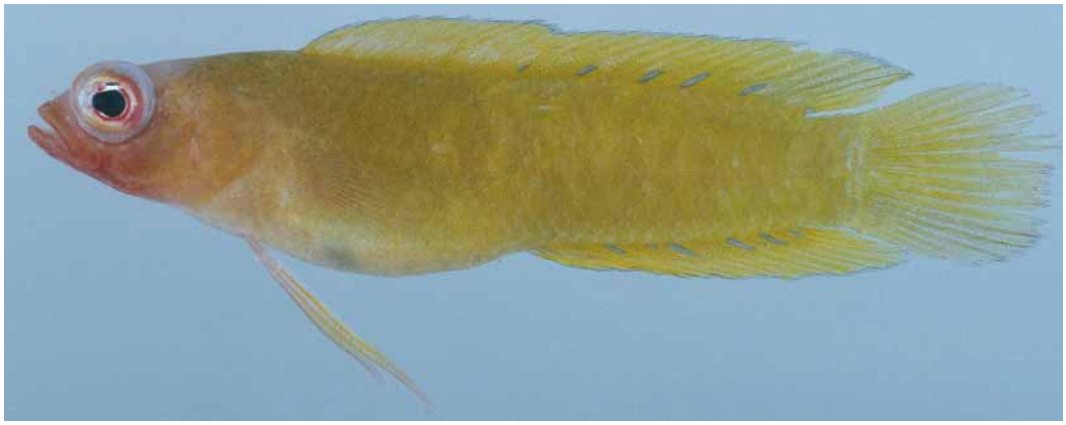

FIGURE 1. *Pseudoplesiops wassi*, USNM 363283, holotype, 25.0 mm SL, Mota Lava Island, Banks Islands, Vanuatu (photo by J.T. Williams).

FIGURE 2. *Pseudoplesiops wassi*, BPBM 38969, paratype, 25.0 mm SL, Charybdis Reef, Fiji (photo by J.E. Randall).

Lower lip complete; no prominent intermandibular flap; fin spines weak and flexible; anterior dorsal-fin pterygiophore formula S/S/S + 2/1 + 1 or S/S/2/1 + 1 (S/S/2/1 + 1); 20-22 (21) consecutive dorsal-fin pterygiophores inserting in 1:1 relationship directly behind neural spine 4; anterior anal-fin pterygiophore formula 3 + 1 + 1/1, 2 + 1 + 1/1, 2 + 1 + 1 + 1/1 or 2 + 1/1 (2 + 1 + 1/1); 9-10 (9) consecutive anal-fin pterygiophores inserting in 1:1

relationship directly behind haemal spine 2; second segmented pelvic-fin ray longest; caudal fin rounded or truncate to slightly emarginate; dorsal and anal fins without scale sheaths, although often with scales intermittently overlapping fin bases; anterior lateral line represented by a single tubed scale at branchial opening, followed by an intermittent series of centrally pitted scales, which terminate beneath segmented dorsal-fin ray 18–28 (damaged posteriorly in holotype); second intermittent series of centrally pitted scales originating on midside above or slightly anterior to anal-fin origin; additional centrally pitted scales sometimes present above and below pitted scale(s) on middle part of caudal-fin base; scales present on cheeks (extending posteriorly on to tip of preopercle between upper two preopercular pores) and operculum; predorsal scales extending anteriorly to supratemporal commissure; vertebrae 14 + 19–20 (14 + 19); epurals 2; epineurals present on vertebrae 1 through 18–22 (18); pleural ribs present on vertebrae 3 through 14, rib on ultimate precaudal vertebra moderate in size.

Upper jaw with 2–5 pairs of curved, enlarged caniniform teeth anteriorly, medial pair smallest, and 3–4 (at symphysis) to 1–2 (on sides of jaw) irregular inner rows of small conical teeth, outer row of conical teeth largest; lower jaw with 2–4 pairs of curved, enlarged caniniform teeth, the medial pair smallest, and 2–4 (at symphysis) to 1 (on sides of jaw) irregular inner rows of small conical teeth, the conical teeth gradually increasing in size and becoming more curved on middle part of jaw, then becoming abruptly smaller on posterior part of jaw; vomer with 1 row of small, stout conical teeth arranged in a chevron; palatines with small elongate patch or row of small conical teeth; tongue acutely pointed, edentate.

Live coloration (based on photographs of and field notes taken from freshly dead holotype and paratypes from Tonga, Fiji, Rotuma and American Samoa). Head bright greenish yellow to orange-red, becoming pink to orange or red on lips, snout and interorbital area; short, dusky grey bar sometimes present on posterior orbital margin; iris silvery white, pink to orange or red posteriorly and sometimes dorsally and ventrally, with bright pink to red ring around pupil; outer edge of pupil sometimes pale to dark blue; body bright greenish yellow to olive-grey, sometimes becoming pinkish to reddish on breast; dorsal and anal fins bright greenish yellow to reddish grey or red, usually with blue distal margin; bluish grey to bright blue elongate spot at base of every other dorsal- and anal-fin ray (at least posteriorly), sometimes indistinct, elongate, blue or grey spot at base of interposing rays; caudal fin bright greenish yellow or olive-grey to reddish grey or red, sometimes with distal margin grey to blue; pelvic and pectoral fins pinkish to yellowish hyaline.

Preserved coloration. Head and body pale brown to greyish brown, paler ventrally and on snout and interorbital area; posterior orbital margin sometimes with indistinct dusky grey-brown bar; fins brownish hyaline to dark brown; blue or grey spots and distal margins of fins as described above become greyish brown.

Habitat and distribution. This species is known from the northern Great Barrier Reef and Coral Sea, Caroline Islands, Hermit Islands (Bismark Archipelago), Vanuatu, Fiji,

Rotuma, Tonga and Samoa. It also occurs in the Santa Cruz Islands, Solomon Islands (J.T. Williams pers. com.). It has been collected from a variety of rock and coral reef habitats, including surge channels, reef slopes and dropoffs, at depths ranging from 15 to 45 m (with some collections perhaps as shallow as 1 m, and others perhaps as deep as 60 m).

Comparisons. *Pseudoplesiops wassi* appears to be closely related to *P. collare* Gill, Randall & Edwards from Indonesia; the two species are unique among *Pseudoplesiops* in having 14 precaudal vertebrae (only one other pseudoplesiopine — an undescribed *Lubbockichthys* — has 14 precaudal vertebrae; all other species have 10–13). They are readily distinguished from each other by the following characters: scales in lateral series (32–39, usually 33–36 in *P. wassi* versus 39–42 in *P. collare*); transverse scales (12–14 versus 16-19); and circumpeduncular scales (16 versus 20). They also differ markedly in coloration (compare Gill et al., 1991: figs 1–4, with Figs 1-2): *P. collare* has two broad, yellow to brown oblique bars on the head and anterior body (one from nape through eye to jaws, the other from origin of dorsal fin to upper operculum), which are lacking in *P. wassi*; *P. wassi* usually has bluish grey to bright blue elongate spots at the base of every other dorsal- and anal-fin ray, which are lacking in *P. collare*.

Pseudoplesiops wassi is similar to *P. revellei* Schultz (from the central Pacific) and *P. immaculatus* Gill and Edwards (from broadly throughout the West Pacific, west to the Maldive Islands, Indian Ocean) in having relatively high numbers of vertebrae, and dorsal- and anal-fin rays, and blue elongate spots at the bases of dorsal- and anal-fin rays (though these may be indistinct, and present on each ray, rather than on alternate rays). The two species are distinguished from *P. wassi* in having a prominent intermandibular flap (see Gill & Edwards, 2002: fig. 2); I,4 (rarely I,3) pelvic-fin rays (versus I,3 in *P. wassi*); usually 27 segmented dorsal-fin rays (versus usually 28); and 12 + 20–22, usually 12 + 21 vertebrae (versus 14 + 18–19). *Pseudoplesiops revellei* further differs from *P. wassi* in having a prominent dark spot on the operculum.

Pseudoplesiops wassi might be confused with *P. annae* (Weber), a widely distributed West Pacific species, but differs in the following: dorsal-fin rays I,27–29, usually I,28 (versus I,25–27, usually I,25–26 in *P. annae*); precaudal vertebrae 14 (versus 12–13); blue spots at bases of dorsal- and anal-fin rays (versus spots absent); and pelvic fins without dark spots (versus often with small dark brown to black spots).

Remarks. Wass's (1984) brief description of the species includes several minor errors: he indicated that only segmented rays are present in the dorsal and anal fins, apparently overlooking the small, weak spines anteriorly in each fin; and he reported that the lateral line is absent, but there is a single tubed scale at the gill opening.

Etymology. The specific epithet is for R.C. Wass, who first reported on the species, in recognition of his important contribution to our knowledge of South-West Pacific fishes.

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