

Original Article

Plectranthias clavatus, a New Perchlet from Japan and Guam, with a Review of the Distributional Records of *P. kamii* (Perciformes: Serranidae: Anthiinae)Hidetoshi WADA^{1,2)} & Hiroshi SENOU²⁾

Abstract. A new perchlet, *Plectranthias clavatus*, is described from seven specimens [131.3–199.6 mm standard length (SL)] from Sagami Bay and Hachijo-jima Island, Japan, and Guam. *Plectranthias clavatus* can be distinguished from all congeners by the following combination of characters: dorsal fin with 10 spines and 17–18 (mode 17) soft rays; pectoral-fin rays 13–14 (13), all branched except for uppermost ray; lateral line complete, with 35–36 (35) pored scales; 5.5 and 16–17 (17) scale rows above and below lateral line respectively; 6–7 (6) diagonal rows of large scales on cheek between orbit and corner of preopercle; body deep, its depth at pelvic-fin origin (BDP) 37.8–40.7 % (mean 39.1 %) of SL, its greatest depth 39.6–42.2 % (41.2 %) of SL; 3rd dorsal-fin spine longest, its length 36.5–45.9 % (41.9 %) of BDP; anal-fin soft rays short, longest ray length 47.9–59.1 % (53.5 %) of BDP; no scales on chin, branchiostegal membranes, infraorbital bones, maxilla, mandibles or snout; predorsal scales extending to posterior two-thirds of interorbital area, anterior margin of squamation not reaching line through posterior nostrils; posterior margin of preopercle serrated, ventral margin with 2 antrorse spines; short flaps at tips of 2nd and 3rd dorsal-fin spines; 3 large orange-red saddles on dorsum; single orange-red stripe on posterior four-fifths laterally, saddles and stripe well-spaced. Distributional records of *Plectranthias kamii* Randall, 1980, widely reported from the East Indian to Central Pacific Oceans and considered most similar to *P. clavatus*, were reassessed by reidentification of specimens and photographs accompanying previous records. In Japanese waters, new distribution records for *P. kamii* were confirmed based on the specimens examined from Cape Omaezaki (Pacific coast of central Honshu), and the Goto Islands, Amakusa Nada Sea and Taka-shima Island (northeastern East China Sea).

Key words: biogeography, ichthyology, morphology, new species taxonomy

Introduction

The highly diverse perchlet genus *Plectranthias* Bleeker, 1873, currently represented by 66 valid species from tropical to temperate Indo-Pacific and Atlantic waters (Anderson, 2018, 2022), is characterized by the following combination of characters: dorsal fin with usually 10 spines and 13–20

soft rays (12 spines in *Plectranthias normanby* Fricke, 2021, exceptionally), and incised between spinous and soft portions; pectoral-fin rays 12–18; lateral line with 8–46 tubed scales; no auxiliary scales on head or body; scales with or without basal cteni; teeth on vomer in a V- or U-shaped patch; no teeth on tongue; gill rakers 3–10 + 7–22 = 12–31; total vertebrae 26 (rarely 27) (Fricke, 2021; Gill *et al.*, 2021).

During a taxonomic study of *Plectranthias* from Japanese waters, six specimens from Sagami Bay and Hachijo-jima Island, Izu Islands, Japan, were found to represent an undescribed species. In addition, during the investigation of the type series of *Plectranthias kamii* Randall, 1980, one paratype from Guam was identified as the same undescribed species from Japan. The undescribed species shares many morphological characters with *P. kamii* but the former differs from the

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latter significantly in some morphometric characters and coloration. The specimens from Japan and Guam are described here as a new species of *Plectranthias*.

Materials and Methods

Counts and measurements followed Hubbs & Lagler (1958), Randall (1980), and Gill *et al.* (2021). Body depth at the pelvic-fin origin and anal-fin origin were measured as the vertical distance from the dorsal edge of the body to the origin of the pelvic-fin spine and first anal-fin spine respectively. Measurements were made to the nearest 0.1 mm using calipers. Standard length, head length, and body depth at pelvic-fin origin are expressed as SL, HL, and BDP respectively. A diagram of the bone serration followed Gill *et al.* (2021: fig. 2). Squamation and bone serration were examined on preserved specimens stained with cyanine blue (Akihito *et al.*, 1993; Saruwatari *et al.*, 1997). Vertebral counts followed Wada *et al.* (2020). Descriptions of freshly collected coloration (before preservation) were based on color photographs of the holotype and paratypes (Fig. 1). Descriptions of coloration in preserved specimens were based on specimens preserved in alcohol for at least 1 year and no more than 20 years (Fig. 2A–C). Osteological characters were observed on radiographs (Fig. 3). Intermuscular bone terminology followed Patterson & Johnson (1995) and Johnson & Patterson (2001). The formula for configuration of the supraneural bones, anterior neural spines and anterior dorsal-fin pterygiophores followed Ahlstrom *et al.* (1976). Institutional codes follow Sabaj (2020). Collection codes in KPM are as follows; NI: ichthyological specimen collections; NR: Image Database of Fishes. On the database of the KPM, registration numbers are expressed as seven digits including leading zeros (e.g., KPM-NI0048915), but leading zeros are omitted here. Names of the structure and development of Sagami Bay followed Ogawa *et al.* (1989).

Results and discussions

Plectranthias clavatus sp. nov.

(New English name: Club Perchlet; new standard Japanese name: Ichimonji-hanadai)
(Figs. 1–6, 8; Table 1)

Plectranthias kamii (not of Randall, 1980): Randall, 1980: 141 (in part: Guam); Kuitert, 2004: 113, unnumbered fig. (in part: Guam); Konishi, 2021: 210, uppermost fig. (photographic record: KPM-NR

86810) (in part: Sagami Bay, Japan)

Plectranthias sp.: Koeda *et al.*, 2021b: 17, fig. 7A (underwater photograph: Shoho Sea Mount, Nishi-Shichito Ridge, Japan)

Holotype. KPM-NI 13878, 176.0 mm SL, Okinoyama Bank Chain, southeast of Sagami Bay, Japan, 200 m depth, 13 Mar. 2004, line fishing, collected by H. Hoshiyama, donated by M. Miyazawa.

Paratypes. 4 specimens: FAKU 147672, 199.6 mm SL, off Inatori, Higashi-izu, Kamo, Shizuoka Prefecture, southwest of Sagami Bay, Japan, 200 m depth, 15 Feb. 2020, line fishing, collected by M. Okamoto; KPM-NI 48915, 153.1 mm SL, Hachijo-jima Island, Izu Islands, Tokyo, Japan, 200 m depth, 20 July 2018, line fishing, collected by Y. Tsuda; KPM-NI 77590, 131.3 mm SL, Naka-no-kurose, Hachijo-jima Island, Izu Islands, Japan, 386 m depth, 21 Aug. 2023, line fishing, collected by R/V Takunan, donated by K. Hashimoto; ZUMT 66348, 155.8 mm SL, collected with KPM-NI 77590.

Non-type specimens. 2 specimens: BPBM 5845, paratype of *Plectranthias kamii*, 174.4 mm SL, Guam, Mariana Islands, details described in Randall (1980); ZUMT 40628, 188.3 mm SL, Japan (details unknown), collected before 1952 (see Koeda *et al.*, 2022).

Photographic record (non-type). KPM-NR 86810, off Yawatano, Ito, Shizuoka Prefecture, southwest of Sagami Bay, Japan, 100 m depth, 20 Feb. 2003, line fishing, M. Okamoto.

Diagnosis. A species of *Plectranthias* with the following combination of characters: dorsal fin with 10 spines and 17–18 (mode 17) soft rays; pectoral-fin rays 13–14 (13), all branched except for uppermost ray simple; principal caudal-fin rays 9 + 8; lateral line complete, with 35–36 (35) pored scales; 5.5 and 16–17 (17) scale rows above and below lateral line respectively; 6–7 (6) diagonal rows of large scales on cheek between eye and corner of preopercle; circumpeduncular scales 15; ca. 8 rows of large predorsal scales, single row of small scales extending to posterior two-thirds of interorbital area, tip not reaching line through posterior nostrils (Fig. 4); body deep, its depth at pelvic-fin origin 37.8–40.7 % (mean 39.1 %) of SL, greatest depth 39.6–42.2 % (41.2 %) of SL; third dorsal-fin spine longest, its length 36.5–45.9 % (41.9%) of BDP; anal-fin soft rays short, its longest ray length 47.9–59.1 % (53.5 %) of BDP; no scales on chin, branchiostegal membranes, infraorbital bones, maxilla, mandibles or snout; posterior margin of preopercle serrated, ventral margin with 2 antrorse spines; short

flaps at tips of second and third dorsal-fin spines; 3 large orange-red saddles on dorsal edge of body; single orange-red stripe on posterior four-fifths of lateral body, saddles and stripe well-separated when fresh. Maximum size of species ca. 200 mm SL.

Description. Data for the holotype presented first, followed by paratype data in parentheses if different. Counts and measurements are given in Table 1. Characters given in the diagnosis are not repeated.

Body oval, laterally compressed. Upper profile

of head nearly straight, forming an angle of ca. 30° to body axis. Dorsal profile rising from snout tip to seventh dorsal-fin spine base, thereafter gradually lowering to end of dorsal-fin base. Ventral profile lowering from lower-jaw tip to midpoint of abdomen, subsequently rising slightly to anal-fin origin (slightly rising or parallel to anal-fin origin). Ventral contour of anal-fin base rising. Dorsal and ventral profiles of caudal peduncle slightly concave. Branchiostegal rays 7. Vertebrae 10 + 16; supraneurals 3, all similar in

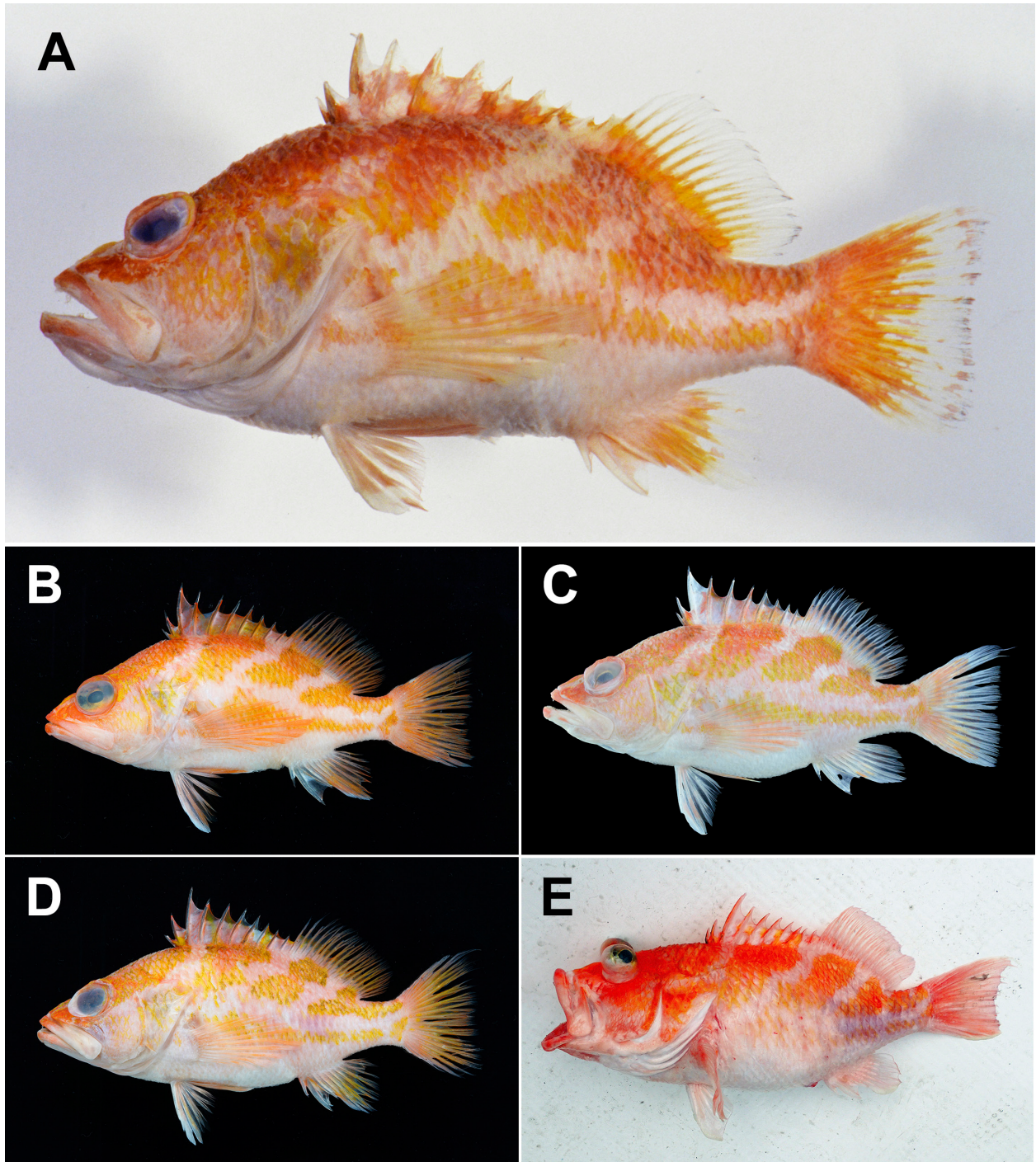


Fig. 1. Fresh specimens of *Plectranthias clavatus* sp. nov. from Japan. A: KPM-NI 13878, holotype, 176.0 mm SL, Sagami Bay, photo by H. Senou; B: KPM-NI 77590, paratype, 131.3 mm SL, Izu Is., photo by H. Wada; C: KPM-NI 48915, paratype, 153.1 mm SL, Izu Is., photo by H. Senou; D: ZUMT 66348, paratype, 155.8 mm SL, Izu Is., photo by H. Wada; E: FAKU 147672, paratype, 199.6 mm SL, Sagami Bay, photo by M. Okamoto.

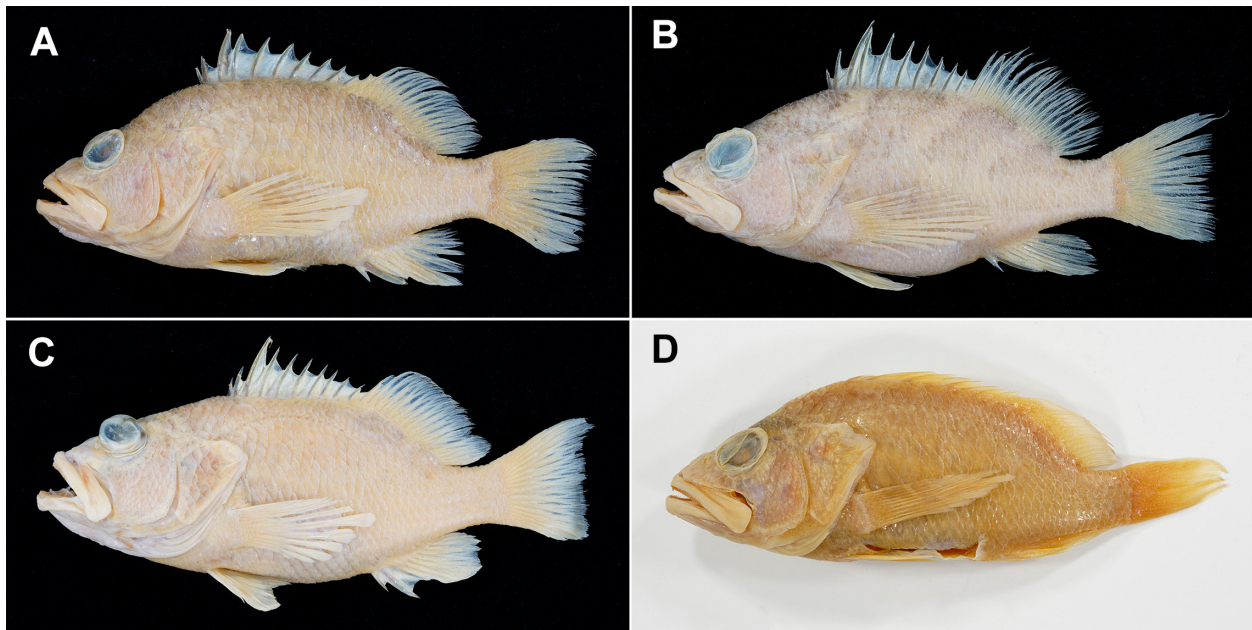


Fig. 2. Preserved specimens of *Plectranthias clavatus* **sp. nov.** (all photos by H. Wada). A: KPM-NI 13875, holotype, 176.0 mm SL, Sagami Bay, Japan; B: KPM-NI 48915, 153.3 mm SL, paratype, Izu Is., Japan; C: FAKU 147672, paratype, 199.6 mm SL, Sagami Bay, Japan; D: BPBM 5845, paratype of *P. kamii* (identified as *P. clavatus*), 174.4 mm SL, Guam.

length; formula for configuration of supraneural bones, anterior neural spines and anterior dorsal pterygiophores 0/0+0/2/1+1; no trisegmental pterygiophores associated with dorsal and anal fins; ribs present on third to tenth vertebrae.

Dorsal-fin origin dorsal to third pored lateral-line scale; dorsal profile of dorsal fin incised between spinous and soft-rayed portions; all soft rays branched, seventh longest, last two joined basally. Anal fin rounded with third soft ray longest; second spine longest and stoutest. Caudal fin truncate, uppermost portion slightly extended. Pectoral fin oval; lower 7 pectoral-fin rays slightly thickened, with membranes between thickened rays incised; eighth ray longest (eighth or ninth ray longest), just reaching vertical through posterior second anal-fin spine base. Pelvic fins short, reaching about half of abdomen, second soft ray longest.

Mouth large, slightly oblique, posterior margin of maxilla reaching vertical through posterior edge of pupil; maxilla expanded posteriorly; supramaxilla absent; upper jaw with band of villiform teeth, 8–9 rows wide anteriorly, reducing to 3–4 rows posteriorly, with 2 pairs of canine teeth at front of jaw (pair or 2 pairs at front of jaw); lower jaw with band of villiform teeth, 5 rows wide at symphysis, reducing to single row posteriorly, with 3 pairs of canine teeth on mid-side of jaw (2 or 3 pairs on mid-side of jaw); vomer with compressed V-shaped band of 2–3 rows of sharp-tipped conical teeth; palatine with a band of 1–2 rows of small, sharp-tipped conical teeth; ectopterygoid

and mesopterygoid edentate; tongue narrow, pointed and edentate. Opercle with 3 flat spines, middle spine longest, upper spine partially concealed by scales; preopercle with single vertical open groove; 22 or 25 (23–34) serrae on posterior margin of preopercle; 1 or 6 (0–6) serrae on posterior margin of interopercle; 2 or 3 (1–5) serrae on posterior margin of subopercle; 3 or 5 (1–9) serrae on posttemporal; lower margin of lacrimal smooth without serrae. Anterior nostril positioned at middle of snout, tubular with small flap on posterior rim, not reaching posterior nostril when depressed; posterior nostril at anterior border of orbit, with small flap.

Scales ctenoid with peripheral cteni only; lateral line complete, broadly arched over pectoral fin following body contour to caudal-fin base; no auxiliary scales on head or body; dorsal fin with intermittent row of scales along base; anal fin with low thick scaly sheath basally, with some small scales extending on to fin membranes anteriorly; caudal fin with scaly basal sheath, small scales extending on to basal third to half of fin membranes; pectoral fins with basal sheath, small scales extending on to fin membranes.

Coloration when fresh (Fig. 1). Body pinkish-white with three large orange-red saddles on dorsal half of body, posteriormost saddle consisting of three small interconnecting saddles. Single orange-red stripe on posterior four-fifths of body mid-laterally, not connected with saddles above. Cheek with single indistinct dull yellow blotch. Single small orange-red blotch on surface of pectoral-fin base. Dorsal surface of head and nape,

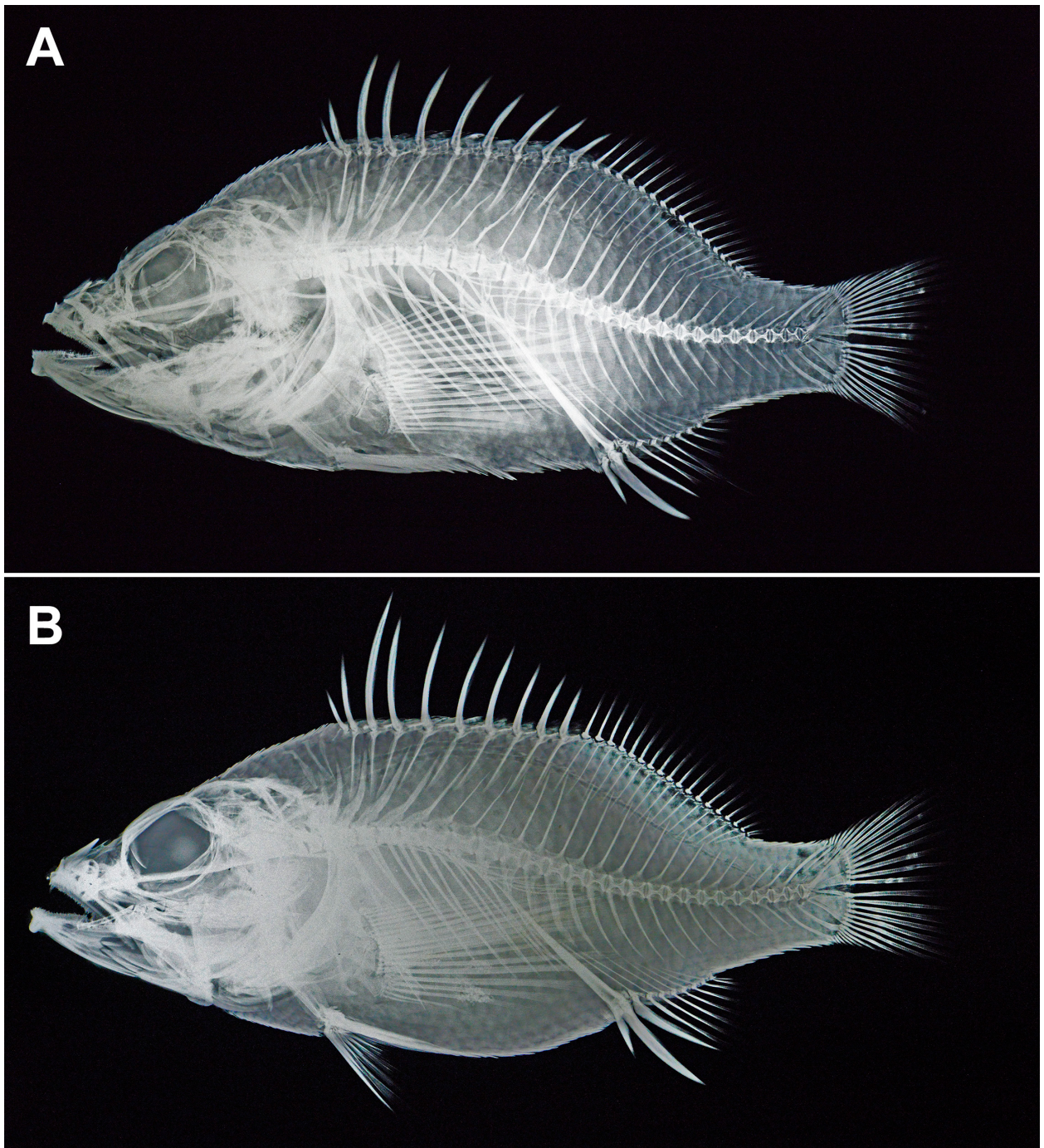


Fig. 3 Radiographs of *Plectranthias clavatus* **sp. nov.** (all taken by H. Wada). A: KPM-NI 13875, holotype, 176.0 mm SL, Sagami Bay, Japan; B: KPM-NI 48915, 153.3 mm SL, paratype, Izu Is., Japan.

and tip of lower jaw orange-red. Dorsal-fin spinous portion orange-red with white area between first to fourth spines; anterior surface of first dorsal-fin spine black. Proximal half of dorsal-fin soft rayed portion, anal fin, and caudal fin orange-red, distal half translucent white (translucent white or orange-red), distal edge with indistinct black margin. Pectoral fin pinkish-white (orange-red). Pelvic fin pinkish-white with single indistinct red blotch.

Coloration when preserved (Fig. 2). Body uniformly yellowish-brown with four indistinct dark saddles and

single stripe replacing orange-red saddles and stripe of fresh specimens. Dark markings on body becoming indistinct with time, almost absent after 20+ years. Indistinct dark margin on distal edge of dorsal-fin soft rayed portion, anal fin, and caudal fin. Anterior surface of first dorsal-fin spine black.

Etymology. The specific name “*clavatus*”, meaning “club”, is proposed in reference to the stripe on the lateral surface of the body that characterizes the species. New English and standard Japanese names are also proposed in relation to this coloration.

Table 1. Counts and measurements of *Plectranthias clavatus* and *P. kamii*. DF and AF indicate dorsal- and anal-fins, respectively

	<i>Plectranthias clavatus</i> sp. nov.				<i>Plectranthias kamii</i>			
	KPM-NI	n = 4	ZUMT	BPBM	BPBM	BPBM	n = 34	
	13878	Paratypes	40628	5845	19636	24784		
Type status	Holotype	Japan	Non-type	—*	Holotype	Non-type	Non-types	
Locality	Sagami B. (Japan)	Japan	Japan	Guam	Ryukyu Is. (Japan)	Moorea	Japan	
Standard length (mm)	176.0	131.3–199.6	188.3	174.4	214.0	207.0	121.7–238.7	
Counts								mode (n)
Dorsal-fin rays	X, 17	X, 17–18	X, 17	X, 18	X, 18	X, 18	X, 17–18	X, 18 (24)
Anal-fin rays	III, 7	III, 7	III, 7	III, 7	III, 7	III, 7	III, 7	III, 7 (24)
Pectoral-fin rays	13	13–14	13	13	13	13	13	13 (24)
Pored lateral-line scales	35	35–36	35	36	36	38	34–36	35 (24)
Scale rows above lateral line	5.5	5.5	5.5	5.5	5.5	5.5	4.5–5.5	5.5 (24)
Scale rows below lateral line	17	16–17	17	17	18	17	16–18	17 (23)
Scale rows on cheek	6	6–7	6	6	6	7	6–7	6 (24)
Gill rakers on first gill arch	6 + 11	5–6 + 11–12	6 + 11	6 + 12	6 + 13	6 + 13	5–6 + 11–13	5 + 12 (24)
Measurements (% of SL)								mean (n)
Body depth at pelvic-fin origin	40.7	37.8–39.7	39.5	38.4	35.5	37.2	34.4–37.5	36.1 (36)
Body depth at AF origin	40.4	33.4–37.8	34.1	34.8	30.8	33.2	30.8–37.3	33.6 (36)
Greatest body depth	43.1	40.1–42.2	39.6	broken	37.1	40.6	35.7–41.3	38.3 (36)
Body width	23.7	20.1–23.9	20.4	22.0	19.5	22.0	17.7–21.5	19.7 (24)
Head length	44.6	43.5–46.3	42.4	47.1	43.9	44.3	41.4–45.4	43.7 (36)
Snout length	12.1	11.2–12.4	10.6	12.5	13.0	12.5	10.1–13.1	11.8 (24)
Orbit diameter	10.3	11.8–13.3	9.6	10.8	9.8	10.1	8.9–12.1	9.8 (24)
Bony interorbital width	5.7	4.8–4.9	3.8	4.9	4.5	4.7	3.7–5.8	4.8 (24)
Upper-jaw length	21.4	20.6–23.0	20.4	21.9	22.1	22.1	18.8–22.4	21.0 (24)
Caudal-peduncle depth	13.4	12.3–13.2	12.6	12.3	11.6	12.2	11.0–13.7	12.4 (24)
Caudal-peduncle length	21.0	20.4–20.9	21.4	19.8	18.1	20.9	18.2–21.8	20.0 (24)
Pre-DF length	40.5	39.8–42.8	38.9	43.1	40.5	41.2	38.4–43.9	40.6 (24)
Pre-AF length	71.7	71.6–73.8	71.3	70.0	74.0	73.6	68.3–76.5	72.8 (24)
Pre-pelvic-fin length	41.3	38.1–41.4	41.4	40.0	40.0	39.5	35.8–40.9	38.4 (24)
DF base length	55.1	51.2–56.1	50.6	54.8	51.4	52.5	49.1–56.6	53.2 (24)
First DF spine length	4.9	4.7–5.9	5.7	6.5	6.0	4.9	4.7–7.0	5.8 (22)
Second DF spine length	8.8	7.7–10.5	9.4	9.6	7.9	9.2	8.0–11.4	9.3 (32)

Table 1. Continued

	<i>Plectranthias clavatus</i> sp. nov.				<i>Plectranthias kamii</i>			
	KPM-NI 13878 Holotype Sagami B. (Japan)	<i>n</i> = 4 Paratypes Japan	ZUMT 40628 Non-type Japan	BPBM 5845 —* Guam	BPBM 19636 Holotype Ryukyu Is. (Japan)	BPBM 24784 Non-type Moorea	<i>n</i> = 34 Non-types Japan	
Type status								
Locality								
Measurements (% of SL)					mean (<i>n</i>)		mean (<i>n</i>)	
Third DF spine length	14.9	15.3–17.4	16.7	16.2	18.1	17.4	17.2–22.6 19.5 (29)	
Fourth DF spine length	13.0	13.5–15.2	14.5	14.4	13.6	15.3	13.1–17.5 14.9 (35)	
Longest DF soft ray length	16.1	16.1–17.5	broken	17.7	16.5	17.6	15.4–19.7 17.1 (24)	
AF base length	15.0	12.7–14.3	14.3	14.2	14.1	14.1	12.7–15.3 14.1 (24)	
First AF spine length	5.9	6.7–8.0	5.6	7.1	7.3	6.9	6.3–8.8 7.5 (24)	
Second AF spine length	13.0	12.6–16.8	15.2	15.3	14.2	15.8	11.9–16.5 14.4 (24)	
Third AF spine length	11.2	10.7–15.4	12.6	14.3	13.1	15.3	11.4–14.4 13.2 (23)	
Longest AF soft ray length	20.4	18.9–22.5	20.5	22.7	21.9	25.2	21.6–26.3 23.2 (35)	
Caudal-fin length	28.4	30.6–34.2	broken	25.4	30.7	broken	27.1–35.2 30.6 (19)	
Pectoral-fin length	32.6	33.8–37.4	34.8	35.2	34.4	34.4	33.9–40.3 35.9 (24)	
Pelvic-fin spine length	14.3	12.8–14.9	12.5	13.5	12.9	14.4	12.4–14.7 13.4 (24)	
Pelvic-fin length	22.0	19.5–23.2	20.6	20.9	21.0	24.2	19.7–24.8 21.6 (24)	
Measurements (% of BDP)								
Third DF spine length	36.5	38.7–45.9	42.4	42.3	51.0	46.7	47.1–62.7 54.1 (29)	
Longest AF soft ray length	50.0	47.9–59.1	52.0	59.1	61.7	67.8	59.4–73.9 64.3 (36)	

*Non-type specimen for *P. clavatus*, but one of paratypes of *P. kamii*



Fig. 4. Squamation on interorbital space of *Plectranthias clavatus* sp. nov. (FAKU 147672, paratype, 199.6 mm SL). Stained with cyanine blue. Photo by H. Wada.

Distribution. *Plectranthias clavatus* sp. nov. was collected from 100–386 m depth in Sagami Bay and the Hachijo-jima Island, Izu Islands, Japan, and Guam (Fig. 5). In addition, an individual was observed at 406 m depth on the Shoho Sea Mount, Nishi-Shichito Ridge, southern Japan (Koeda *et al.*, 2021b). All individuals were collected from over rocky substrate.

Remarks. *Plectranthias clavatus* sp. nov. and *P. kamii* can be easily distinguished from all other congeners by the following combination of characters: dorsal fin rays X, 17–18, pectoral-fin rays 13–14, all branched except for uppermost ray simple; lateral line complete, with 34–38 pored scales; 4.5–5.5 and 16–20 scale rows above and below lateral line respectively; 6–7 diagonal rows of large scales on cheek between eye and corner of preopercle; body deep, its greatest depth more than 34.4 % of SL; third dorsal-fin spine longest; no scales on chin, branchiostegal membranes, infraorbital bones, maxilla, mandibles or snout; anterior end of predorsal scales not reaching line through posterior nostrils; posterior margin of preopercle serrated, ventral margin with 2 antrorse spines (Table 1; Figs. 1, 4, 7; Randall, 1980, 1996; Randall & Hoese, 1995; Anderson, 2008; Heemstra & Randall, 2009; Wu *et al.*, 2011; Williams *et al.*, 2013; Bineesh *et al.*, 2014; Allen & Walsh, 2015; Gill *et al.*, 2016, 2021; Shepherd *et al.*, 2018, 2020; Wada *et al.* 2018, 2020; Tang *et al.*,

2020; Fricke, 2021; Koeda *et al.*, 2021a; this study).

Plectranthias clavatus is most similar to *P. kamii*, widely distributed in the East Indian to Central Pacific Oceans (Peristiwady *et al.*, 2018; Gill *et al.*, 2021), in sharing the abovementioned morphological characters. However, *P. clavatus* has a deeper body, its depth at the pelvic-fin origin 37.8–40.7 % (mean 39.1 %) of SL [vs. 34.4–37.5 % (36.1 %) of SL in *P. kamii*], shorter third dorsal-fin spine, its length 36.5–45.9 % (41.9 %) of BDP [vs. long, 46.7–62.7% (53.7%) in *P. kamii*], shorter anal-fin soft rays, its longest ray length 47.9–59.1 % (53.5 %) of BDP [vs. long, 59.4–73.9 % (64.4 %) in *P. kamii*], three large orange-red saddles on dorsal edge of body (vs. 7 saddles in *P. kamii*), single orange-red stripe on posterior four-fifths of mid-lateral body when fresh (vs. single longitudinal row of 4–5 irregular-shaped yellow blotches in *P. kamii*), and saddles and stripe separated (vs. saddles and blotches partially connected in *P. kamii*) (Table 1; Figs. 1, 6, 7, 8; Randall, 1980; Peristiwady *et al.*, 2018; Koeda, 2019; Tang *et al.*, 2020; Gill *et al.*, 2021; Koeda *et al.*, 2021b).

The base color of the body in *P. clavatus* and *P. kamii* is usually pinkish-white when fresh (Figs. 1, 7; Peristiwady *et al.*, 2018; Koeda, 2019; Tang *et al.*, 2020; Gill *et al.*, 2021; Koeda *et al.*, 2021b), but occasionally these species are more reddish and the patterns on lateral body appear more yellowish (Kuitert, 2004; Ishikawa, 2012).

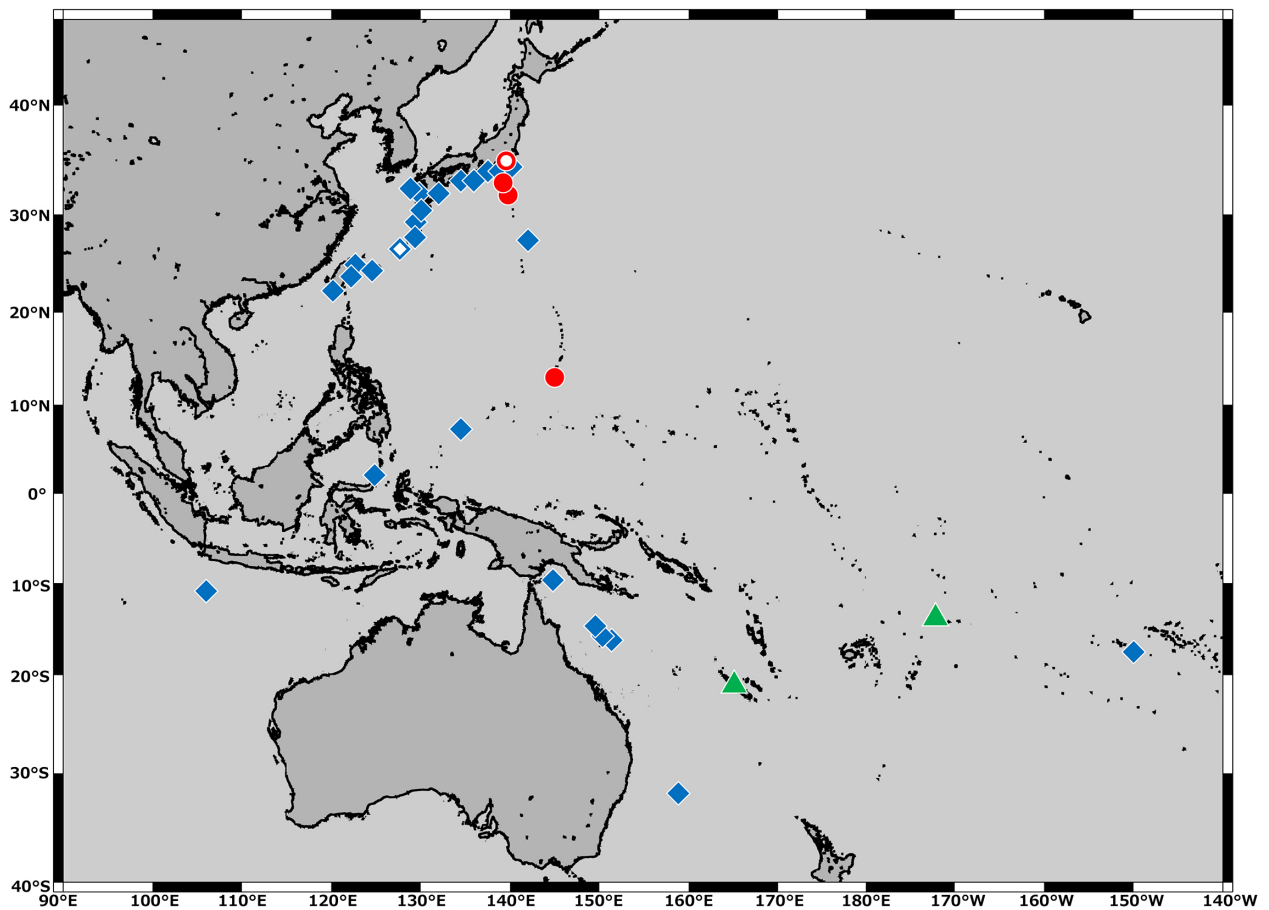


Fig. 5. Distribution of *Plectranthias clavatus* **sp. nov.** (red circles) and *P. kamii* (blue diamonds). Open and closed symbols indicate type locality and other localities respectively. Green triangles indicate unassessed previous records of *P. kamii* during this study.

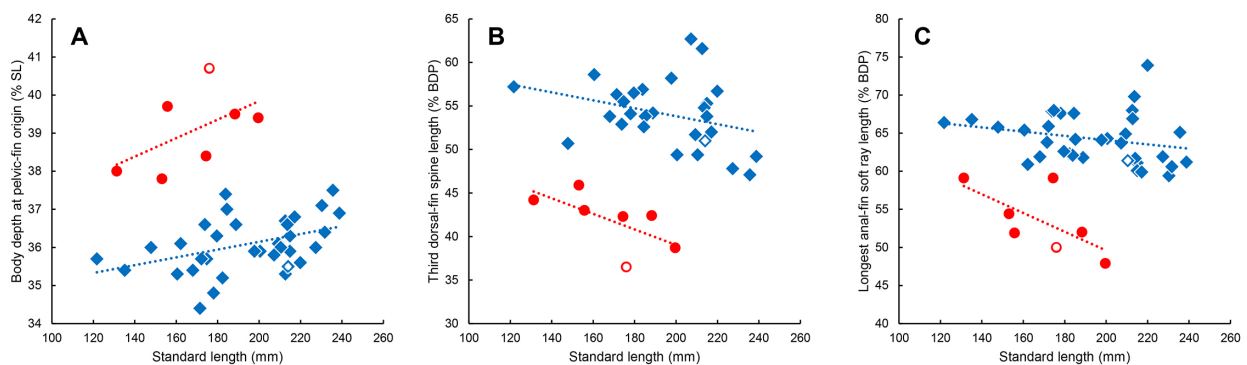


Fig. 6. Relationships of (A) body depth at pelvic-fin origin (as % SL), (B) third dorsal-fin spine length (% BDP), and (C) longest anal-fin soft ray length (% BDP) with standard length (mm) in *Plectranthias clavatus* **sp. nov.** (red circles) and *P. kamii* (blue diamonds). Open and closed symbols indicate holotype and other specimens respectively.

Distributional records of *Plectranthias kamii*

According to the key to species of *Plectranthias* provided by Randall (1980, 1996), *P. clavatus* has probably been misidentified in the literature as *P. kamii*. Therefore, previous distributional records of such are reassessed here (Fig. 5).

The distribution records of *P. kamii* were confirmed from the descriptions and figures in the following publications and/or from direct examination of

specimens shown in the references in this study: Japan (later discussion); northern and southern Taiwan (Chen & Shao, 2002; Koeda, 2019; Tang *et al.*, 2020); Sulawesi, Indonesia (Peristiwady *et al.*, 2018); Coral Sea, Lord Howe Island and Christmas Island, Australia (Gill *et al.*, 2021); and Moorea, Society Islands (Randall, 1996; this study). In Japanese waters, this species is recorded from Sagami Bay (Ishikawa, 2012; this study), Irozaki, southernmost Izu Peninsula (Senou, 2013;

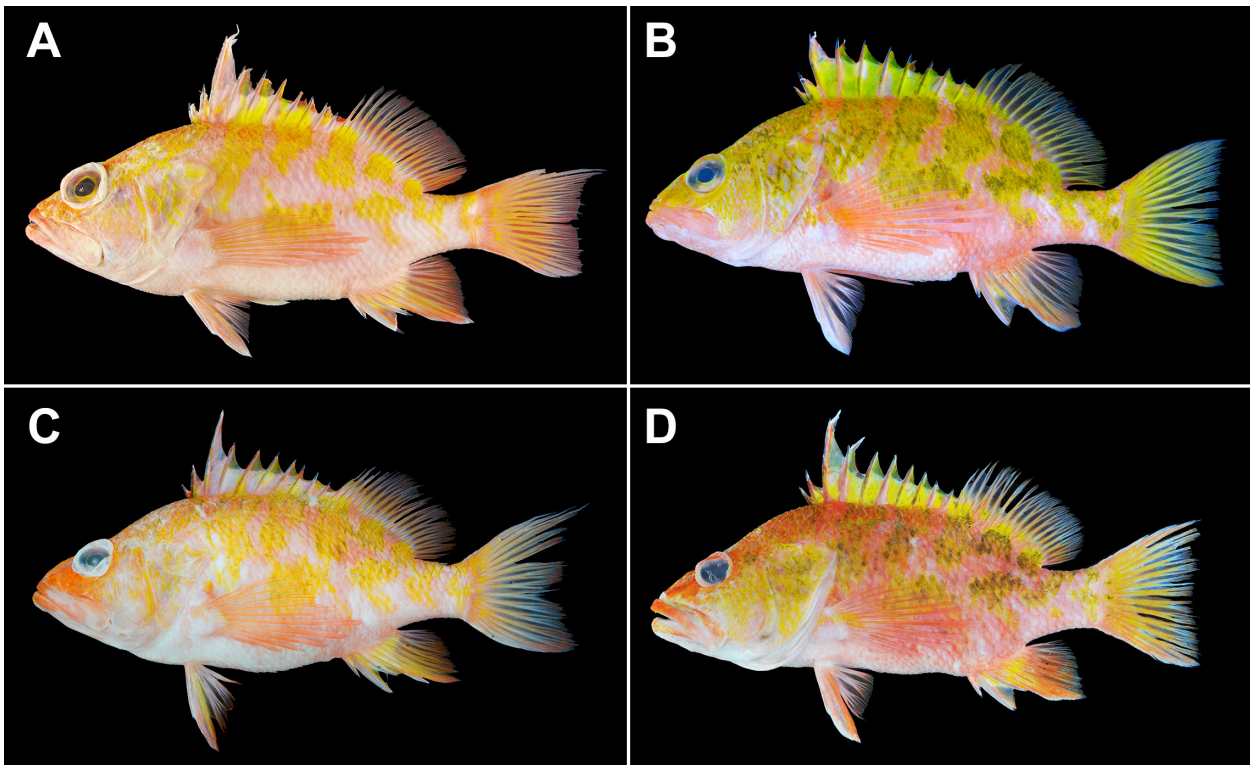


Fig. 7. Fresh specimens of *Plectranthias kamii* from Japan. A: KAUM-I. 60920, 183.6 mm SL, Amami Islands, photo by KAUM; B: KPM-NI 39928, 182.3 mm SL, Sagami Bay, photo by H. Senou; C: KPM-NI 70977, 212.4 mm SL, Hachijo-jima I., photo by H. Wada; D: KPM-NI 28889, 214.9 mm SL, Cape Omaezaki, photo by H. Senou.

this study), Cape Omaezaki (this study), Kii Peninsula (Fukui, 1999; Ikeda & Nakabo, 2015), Kii Canal (Ikeda & Nakabo, 2015; this study), Cape Muroto (Senou, 2005), Hyuga Nada Sea (Iwatsuki *et al.*, 2017; this study), Amakusa Nada Sea (this study), Goto Islands (this study), Koshiki Islands (Fujiwara *et al.* 2017; this study), Taka-shima Island, Kagoshima Prefecture (this study), Uji Islands (Motomura *et al.*, 2016; Fujiwara *et al.* 2017; this study), Osumi Islands (Kaburagi, 2016; Fujiwara *et al.*, 2017; Motomura & Harazaki, 2017; Kimura *et al.*, 2017; Jeong & Motomura, 2021; Motomura, 2023; this study), Ryukyu Islands [Tokara Islands (Furuhashi & Motomura, 2022), Amami Islands (Fujiwara *et al.*, 2017; Sakurai, 2019; this study), Okinawa Islands (Yoshino, 1972; Miura, 2012), Yaeyama Islands (Yoshino, 1972; Shimose, 2021), and somewhere in the Ryukyu Islands (Randall, 1980; this study)], Zunan Islands (Kuriwa *et al.*, 2014; this study), and Ogasawara Islands (Randall *et al.*, 1997). A paratype of *P. kamii* from Palau (Randall, 1980: USNM 219329) and a non-type specimen of *P. kamii* reported by Randall *et al.* (2005) from Marshall Islands (USNM 371628) represent an undescribed species that differs from both *P. clavatus* and *P. kamii*, and is currently under study (Wada and Hata, unpublished).

For the following locations, it was not possible

to determine from the information provided in the publications whether the records were based on *P. clavatus* or *P. kamii*: New Caledonia (Fourmanoir, 1982; Rivaton *et al.*, 1990; Fricke *et al.*, 2011: no registered specimens shown); Samoa (Wass, 1984: based on one specimen, BPBM 22721). Given the limited current distribution of *P. clavatus* along the eastern edge of the Philippine Sea Plate (Fig. 5), these records are more likely to be *P. kamii*, which is widely distributed in the East Indian to Central Pacific Oceans.

Comparative materials. *Plectranthias kamii*: 38 specimens, 121.7–291.5 mm SL. **JAPAN: Sagami Bay:** KPM-NI 39928, 182.3 mm SL, Miura, Kanagawa Prefecture, 28 Oct. 2015; **Cape Omaezaki:** KPM-NI 28889, 214.9 mm SL, 200–250 m depth, 9 July 2011; **Kii Canal:** FAKU 65967, 227.3 mm SL, 250 m depth, 1 Dec. 1997; **Hyuga Nada Sea:** KAUM-I. 183718 (previously registered as MUFS 15924), 177.0 mm SL, Meitsu, Nango, Miyazaki Prefecture, 8 July 1998, referenced by Iwatsuki *et al.* (2017), but details undescribed (Wada, unpublished); **Goto Islands:** FAKU 79115, 179.6 mm SL, FAKU 79116, 178.0 mm SL, FAKU 79119, 160.5 mm SL, FAKU 79120, 184.4 mm SL, FAKU 79121, 174.7 mm SL, FAKU 79122, 172.1 mm SL, FAKU 79123, 171.4 mm SL, FAKU 79141,

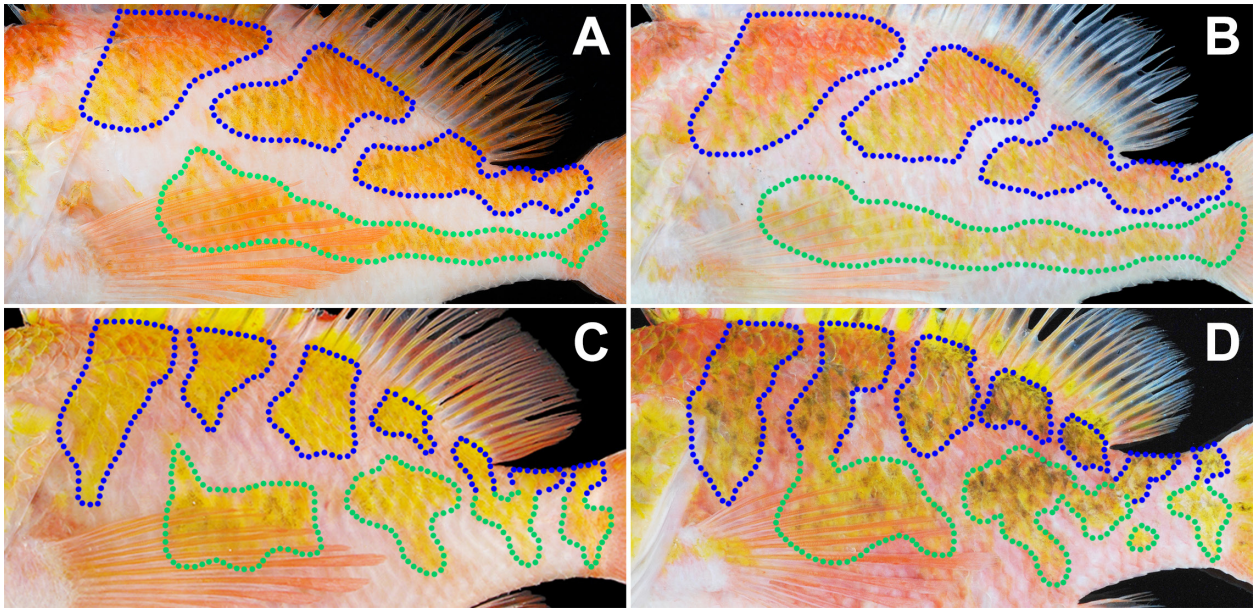


Fig. 8 Diagnostic colorations of lateral surface of body in *Plectranthias clavatus* sp. nov. (A, B) and *P. kamii* (C, D). Enclosed area shown by blue lines indicates saddles. Enclosed area shown by green lines indicates stripe or blotches. A: KPM-NI 77590, paratype, 131.3 mm SL; B: KPM-NI 48915, paratype, 153.3 mm SL; C: KAUM-I. 60920, 183.6 mm SL; D: KPM-NI 28889, 214.9 mm SL.

162.1 mm SL, FAKU 79142, 185.1 mm SL, FAKU 79143, 135.1 mm SL, FAKU 79144, 168 mm SL, 31 July 1987; **Amakusa Nada Sea**: ZUMT 65206, 235.6 mm SL, ZUMT 65207, 173.8 mm SL, off Ushibuka, Kumamoto, 1 Dec. 1994; **Koshiki Islands**: KAUM-I. 52252, 231.7 mm SL, KAUM-I. 52253, 210.4 mm SL, KAUM-I. 52254, 212.7 mm SL, KAUM-I. 52255, anomaly individual, 291.5 mm SL, 12 Nov. 2012; KAUM-I. 58815, 238.7 mm SL, 27 Jan. 2014; **Taka-shima Island**: KAUM-I. 98262, 121.7 mm SL, 28 Feb. 2017; **Uji Islands**: KAUM-I. 33981, 217.1 mm SL, 340 m depth, 19 Nov. 2011; KAUM-I. 46926, 200.5 mm SL, 340 m depth, 29 Dec. 2011; **Osumi Islands**: KAUM-I. 1654, 230.3 mm SL, KAUM-I. 1655, 188.8 mm SL, off Yakushima Island, 30 Jan. 2007; KAUM-I. 56985, 207.2 mm SL, KAUM-I. 56986, 214.9 mm SL, Tanega-shima Island, 9 Nov. 2013; KAUM-I. 97950, 197.7 mm SL, Kuroshima Island, 150–200 m depth, 20 Feb. 2017; **Amami Islands**: KAUM-I. 60920, 183.8 mm SL, Yoron-jima Island, 5 May 2014; KAUM-I. 128533, 219.9 mm SL, Amami-oshima Island, 31 Jan. 2019; KAUM-I. 149521, 213.6 mm SL, Amami-oshima Island, 5 Jan. 2021; **Ryukyu Islands (details unknown)**: BPBM 19639, holotype of *Plectranthias kamii*, 214.0 mm SL, details described in Randall (1980); KAUM-I. 93789, 209.3 mm SL, 3 Sept. 2016; KPM-NI 70977, 212.6 mm SL, 25 Sept. 2021; **Zunan Islands**: NSMT-P 64813, 147.8 mm SL, Hiei Seamount, 9–10 Sept. 2002, listed in Kuriwa *et al.* (2014); **MOOREA**: BPBM 24784, 207.0 mm SL, details described in

Randall (1996): 4 photographs: **JAPAN: Sagami Bay**: KPM-NR 92368, Okinose, Yokosuka, 120 m depth, June 2004; KPM-NR 193065, Sunosaki, southernmost of Boso Peninsula, 250–300 m depth, 27 Jan. 2018; **Izu Peninsula**: KPM-NR 92367, Irouzaki, Minami-izu, 100 m depth, May 2004; **Cape Omaezaki**: KPM-NR 74403, 200–250 m depth, 12 June 2011.

Plectranthias sp.: **PALAU**: USNM 219329, paratype of *P. kamii*, 191.0 mm SL, details described in Randall (1980); **MARSHALL ISLANDS**: USNM 371628, 198.4 mm SL, details described in Randall *et al.* (2005).

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摘 要

和田英敏・瀬能 宏, 2024. 日本及びグアムから得られたハナダイ亜科イブハナダイ属の1新種イチモンジハナダイ (新称) *Plectranthias clavatus* sp. nov., およびイブハナダイ *P. kamii* の分布記録の再検討. 神奈川県立博物館研究報告 (自然科学), (53): 113–126. [Wada, H. & H. Senou, 2024. *Plectranthias clavatus*, a New Perchlet from Japan and Guam, with a Review of the Distributional Records of *P. kamii* (Perciformes: Serranidae: Anthiadinae). *Bull. Kanagawa Pref. Mus. (Nat. Sci.)*, (53): 113–126.]

ハタ科ハナダイ亜科の1新種イチモンジハナダイ *Plectranthias clavatus* が日本およびグアム産の7標本 [標準体長 (体長) 131.3–199.6 mm] にもとづき記載された。イチモンジハナダイは、背鰭鰭条数が X, 17–18 (最頻値 17) および胸鰭鰭条数が 13–14 (13) で、最上軟条を除き先端が分枝する、側線が完全で、側線有孔鱗数は 35–36 (35)、側線上方横列鱗数が 5.5、側線下方横列鱗数が 16–17 (17)、頬鱗数が 6–7 (6)、体高が高く、腹鰭起部における体高 (BDP) が体長の 37.8–40.7 % (平均 39.1 %)、最大体高が体長の 39.6–42.2 % (41.2 %)、背鰭第3棘が最長であり、BDP の 36.5–45.9 % (41.9 %)、臀鰭軟条が短く、最長軟条は BDP の 47.9–59.1 % (53.5 %)、吻および涙骨側面、主上顎骨、下顎に鱗をもたない、背鰭前方鱗が両眼間隔域の後方3分の2まで達するが、後鼻孔までは達さない、前鰓蓋骨後縁に鋸歯をもち、腹縁に2本の前向棘をもつ、背鰭第2–3棘先端に短い皮弁をもつ、生鮮時に体側面の背縁に3個の赤みのオレンジの鞍状斑をもつ、体側面の後方4分の3に1本の赤みのオレンジの棒状斑をもつ、鞍状斑と棒状斑は互いに接続しないなどの形態的特徴の組み合わせにより同属他種から識別される。本研究ではイチモンジハナダイに形態的によく似る同属他種であり、東インドー中央太平洋に広く分布するイブハナダイ *Plectranthias kamii* Randall, 1980 のこれまでの分布記録を、文献中に示された個体の情報から整理した。その結果、本種は改めて東インドー中央太平洋に広く分布することが確かめられた。また調査標本に基づき本州太平洋岸中央部にあたる御前崎と、東シナ海北東部にあたる五島列島および天草灘、鷹島におけるイブハナダイの新たな分布も明らかとなった。