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Review of Japanese Jawfishes of the Genus *Opistognathus* (Opistognathidae) with Description of Two New Species

William F. Smith-Vaniz and Tetsuo Yoshino

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Abstract Two new jawfishes, *Opistognathus decorus* and *O. liturus* are described from Okinawa and Shirahama-cho, Wakayama Prefecture, respectively. They are readily distinguished from all other species of *Opistognathus* having 11 or 12 segmented dorsal fin rays by the possession of prominent, irregular dark blotches on the head. *Opistognathus decorus* differs from *O. liturus* most notably in having more gill rakers on the first gill arch, 41–44 (versus 31), smaller orbit diameter, 7.9–9.0% SL (vs. 12.3), wider bony interorbital, 3.8–4.3% SL (vs. 1.9), fewer cephalic sensory pores and differently shaped infraorbital bones. A key, diagnoses and synonymies are given for all Japanese species of *Opistognathus*.

Jawfishes are interesting biologically because of their ecological and behavioral adaptations, including obligatory burrow-dwelling and oral incubation of eggs, yet they are very poorly known scientifically. In the Indo-Pacific, the Opistognathidae comprise about 40 species of small to moderate sized tropical marine fishes many of which lack scientific names, including the two new species described herein. A color photograph and brief description (as *Gnathypops* sp.) of one of these new species, *Opistognathus decorus*, was previously published by Gushiken (1972) and Masuda *et al.* (1975).

Japanese jawfishes are represented by two well defined genera: *Stalix* Jordan et Snyder, which is apparently unique among fishes in having the anterior spines of the dorsal fin transversely forked, and *Opistognathus* Cuvier. The spellings *Opisthognathus* and Opisthognathidae for the genus and family, respectively, used almost universally for over a century, were shown by Briggs (1961) to be incorrect. Many authors have applied the generic name *Gnathypops* Gill to jawfishes with relatively truncate jaws not extending posteriorly beyond the preopercle. As noted by Meek and Hildebrand (1928), the jaws are sexually dimorphic in several New World species, being truncate in females and elongate in males. Since we know of no additional characters that distinguish *Gnathypops*, we here treat the name as a synonym of *Opistognathus*. Also considered to be a junior synonym is *Merogymnus* Ogilby, which some authors have used to denote species with the trunk naked anteriorly. Although a useful specific character, body squamation in *Opistognathus* shows a nearly complete continuum from species with the body fully scaled to half naked.

No summary of Japanese jawfishes exists and previously published accounts consist mostly of original species descriptions or new distributional records. The following key and diagnoses will distinguish the four previously described Japanese *Opistognathus* from the two new species. Also included are partial synonymies and citation of material examined (Japanese localities only). Complete descriptions and illustrations of all Indo-Pacific jawfishes will be published in a forthcoming revision by the senior author.

Methods and materials

Vertebral and dorsal- and anal-fin ray counts were taken from radiographs. The last element in the dorsal and anal fins has its base in close approximation to the penultimate ray and, although having a separate rudimentary pterygiophore or stay, is not included in the counts in accord with the general practice of most authors. The short, dorsal-most spine-like element in the pectoral fin is included in the ray counts. The number of oblique scale rows is only an approximation due to the irregular size and arrangement of individual scales. Included in this count are all anteroventrally aligned scale rows in a longitudinal series from above the

tip of the opercular flap to the base of the caudal fin (counts of posteroventrally aligned scale rows will result in lower values). The gill raker at the junction of the upper and lower limbs of the first gill arch is included in the lower-limb count.

Measurements were made with needle-point dial calipers. Head length is taken from the middle of the upper lip to the posterodorsal tip of the opercular flap; orbit diameter is a diagonal (anteroventral to posterodorsal) measurement of the bony orbit; body depth is a vertical measurement from the origin of the anal fin; caudal peduncle length is the least distance from the terminal base of anal fin to middle of caudal-fin base. Figures 2 and 3 were drawn with the aid of a camera lucida.

Abbreviations for depositories of material examined are: Academy of Natural Sciences of Philadelphia (ANSP); Department of Biology, Faculty of Science, Kochi University (BSKU); Stanford University collections now at California Academy of Sciences (CAS-SU); Department of Fisheries, Faculty of Agriculture, Kyoto University (FAKU); Fisheries Research Laboratory, Mie University (FRLM); Fisheries Research Station, Kyoto University (FRSKU); Institute of Oceanic Research and Development, Tokai University (IORD); National Science Museum, Tokyo (NSMT); Rijksmuseum van Natuurlijke Historie, Leiden (RMNH); University of Michigan, Museum of Zoology (UMMZ); University of the Ryukyus, Department of Marine Sciences (URM); United States National Museum of Natural History (USNM).

Key to Japanese species of *Opistognathus*

1a. Segmented dorsal and anal rays 10–12 and 10 or 11, respectively; vertebrae 10+16..2

1b. Segmented dorsal and anal rays 13 or 14 and 11–14, respectively; vertebrae 10+17–19.....4

2a. Gill rakers on first gill arch 41–44; segmented dorsal and anal rays 12 and 11, respectively; prominent dark blotches on head laterally and dorsally, including a narrow interorbital band..... .....***O. decorus*** sp. nov.

2b. Gill rakers on first gill arch 26–31; segmented dorsal and anal rays 10 or 11 and 10, respectively; head without dorsal blotches or bands.....3

3a. Head laterally with irregular dark blotches; caudal and pelvic fins uniformly pigmented; teeth on posterior half of dentary consisting of relatively widely spaced, moderate canines.....***O. liturus*** sp. nov.

3b. Head uniformly pigmented; caudal fin with two dark bands, and pelvic fin distinctly bicolored, dark except for the pale unbranched outer rays and interradial membrane; teeth on posterior half of dentary straight with distinctly blunt tips..... .....*O. evermanni* (Jordan et Snyder)

4a. Gill rakers on first arch 41–47; segmented dorsal and anal rays 13 and 11–12, respectively; inner lining of upper jaw immaculate; maxilla not extending posteriorly beyond supramaxilla; pale band extending diagonally from posterior end of jaw across nape; caudal vertebrae 17..... .....*O. hopkinsi* (Jordan et Snyder)

4b. Gill rakers on first arch 28–35; segmented dorsal and anal rays each 14; inner lining of upper jaw either with a dark blotch at rictus or with two dark stripes; maxilla extending slightly posterior to well beyond supramaxilla; no pale band extending diagonally from posterior end of jaw across nape; caudal vertebrae 18 or 19.....5

5a. Scales in longitudinal series 45 or 46; upper jaw 69–74% head length and curved downward and broadly convex posterior to supramaxilla; dorsal fin with dusky spot between 5th to 8th spine; inner lining of upper jaw with dark blotch at rictus; esophageal opening and adjacent area of oral cavity pale; caudal vertebrae 19..... .....*O. iyonis* (Jordan et Thompson)

5b. Scales in longitudinal series 87–105; upper jaw 84–100% head length, and slightly curved upward and tapered posterior to supramaxilla; dorsal fin without a dusky spot between 5th to 8th spine; inner lining of upper jaw with two conspicuous dark stripes; esophageal opening and adjacent area of oral cavity dark; caudal vertebrae 18.....*O. castelnaui* Bleeker

Opistognathus decorus sp. nov.
(Japanese name: Irezumi-amadai)
(Figs. 1, 2a, 3a)

Gnathypops sp. Gushiken, 1972: 48, fig. 242 (color

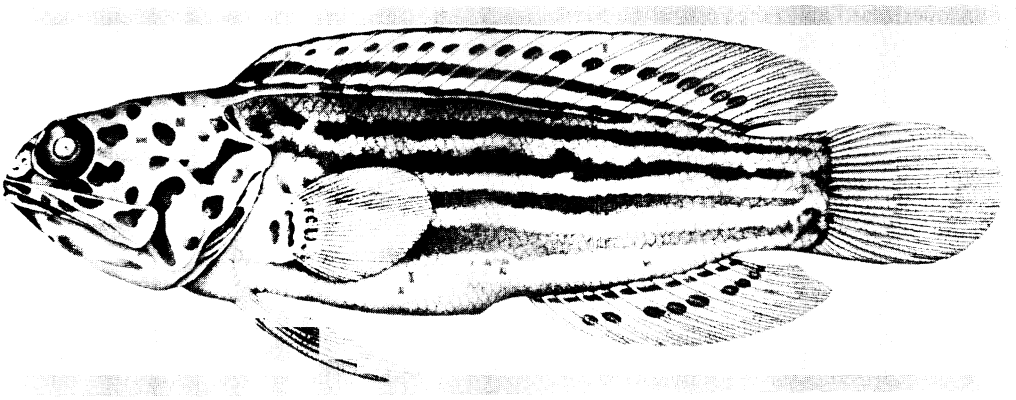

Fig. 1. *Opistognathus decorus*, holotype, ANSP 151868, 142.5 mm SL, Okinawa, Naha. (Drawn by Jack R. Schroeder).

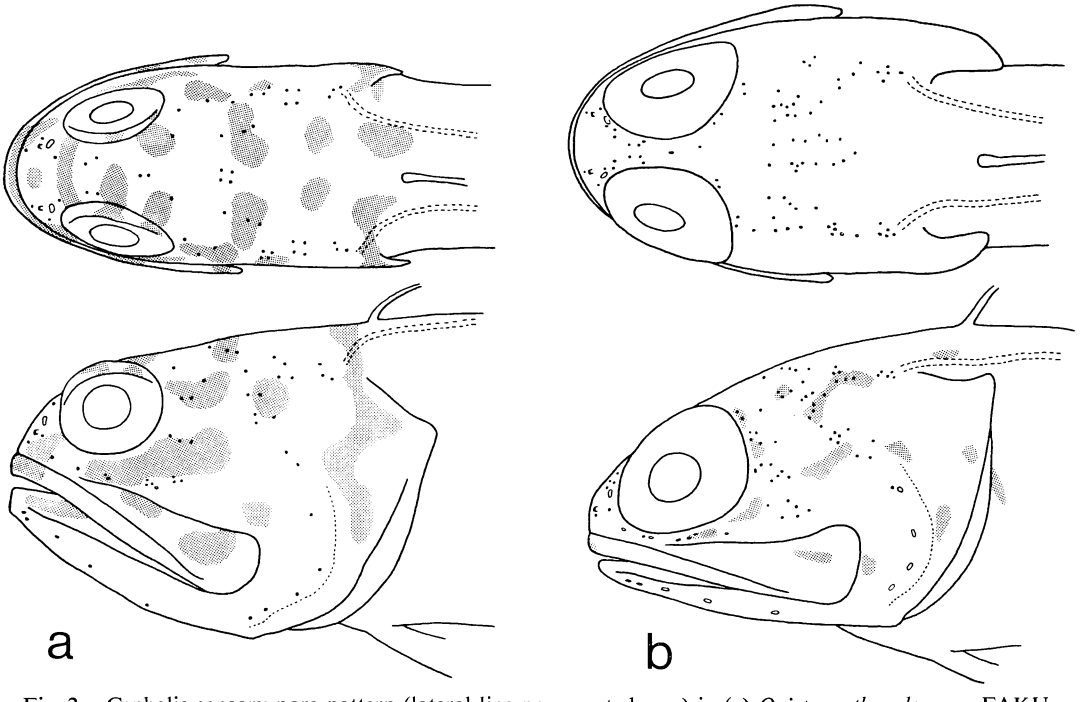

Fig. 2. Cephalic sensory pore pattern (lateral line pores not shown) in (a) *Opistognathus decorus*, FAKU 48888, 127.4 mm SL and (b) *O. liturus*, holotype, URM-P 8134, 55.3 mm SL.

fig.; Okinawa I.); Yoshino *et al.*, 1975: 92 (listed); Masuda *et al.*, 1975: 260, pl. 83-B (brief descr.; Okinawa I.)

Opistognathus sp. 1 Yoshino *in* Masuda *et al.*, 1984: 201, pl. 191-H (brief descr.; Okinawa I.)

Holotype. ANSP 151868 (formerly FAKU 48890), 142.5 mm SL, gravid female, Ryukyu Islands, Okinawa, Naha fish market, Tetsuo Yoshino, May–June 1969.

Paratypes. FAKU 48887–89 (3, 127.4–149.7 mm) same data as holotype; URM-P 3319 (143.2 mm) same as preceding except date March 1982: URM-P 8133 (155.1 mm) same as preceding except date 26 May 1969; NSMT-P 23161 (143.5 mm) Okinawa, Masao Katayama, July 1974.

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 12; anal fin II, 11; body with 56 to 67 oblique scale rows in longitudinal series; 41 to 44 total gill rakers on first arch; maxilla

truncate widest at end with terminally positioned supramaxilla, upper jaw 66.5 to 69.3% head length; prominent dark blotches (bluish-violet in life) on head laterally and dorsally, including a narrow interorbital band.

Description. Individual values for selected meristic data are given in Table 1. Dorsal fin XI, 12; anal fin II, 11; pectoral-fin rays 19–21. Vertebrae: 10 precaudal +16 caudal; epipleural ribs 16 or 17; last pleural rib on vertebra 10. Predorsal bones 2. Caudal fin: segmented rays 8+8, middle 12 branched; procurrent rays 4–5+4; hypural 5 present. Gill rakers 13–15 upper; 28–30 lower; 41–44 total.

Scales absent on head, nape, area above and slightly below lateral line, breast and most of pectoral-fin base. Body with 56–67 oblique scale rows in longitudinal series. Lateral line terminates below a vertical from base of 3rd to 5th segmented dorsal-fin ray. Lateral-line pores sparce, mostly arranged in a single row along embedded lateral-line tubes. Cephalic sensory pores relatively sparce, and mandibulo-preopercular pore positions occupied by single pores (Fig. 2a).

Anterior nostril positioned closer to posterior nostril than to margin of upper lip, and consisting of a short tube, with posterior rim longer, that does not reach margin of posterior nostril when depressed; height of tube slightly shorter that to about equal maximum diameter of posterior nostril. Dorsal fin moderately low, gradually increasing in height to about middle of spinous dorsal fin; profile relatively uniform without change in fin height at junction of spinous and segmented rays. Dorsal-fin spines slender and straight without curved, flexible tips; all except first 1 or 2 segmented dorsal- and anal-fin rays branched distally; outermost segmented pelvic-fin ray not tightly bound to adjacent ray, interradial membrane incised distally. Upper margin of opercle straight and slightly rounded posterodorsally, not consisting of a broad truncated flap; posterior margin of preopercle indistinct, without a free margin. A few small papillae on inner surface of lips anteriorly. Fifth cranial nerve passes under A1β branch of adductor mandibulae muscle.

Maxilla extends about 1.2 to 1.5 eye diameters behind orbit; maxilla widest at end and rounded in both sexes; supramaxilla present, small and

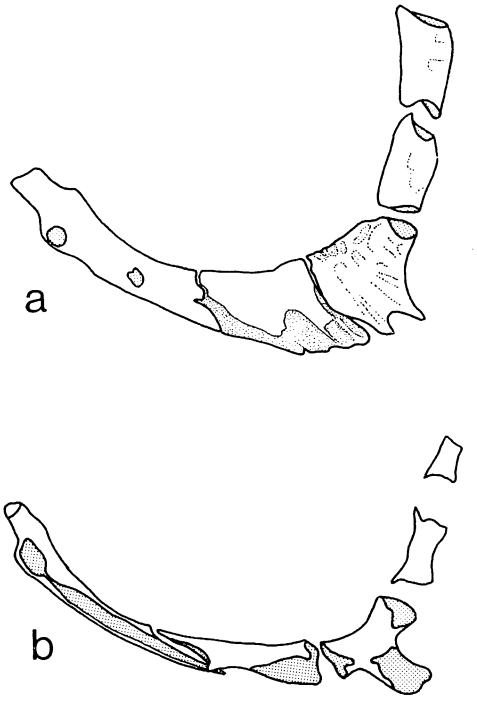

Fig. 3. Infraorbital bones of (a) *Opistognathus decorus*, FAKU 48889, 145.2 mm SL and (b) *O. liturus*, holotype, URM-P 8134, 55.3 mm SL (Right infraorbitals of *O. liturus* illustrated but drawing reversed to facilitate comparison).

terminally positioned. Jaws subequal, lower slightly included. Premaxilla with an outer row of moderate canines anteriorly that become progressively smaller posteriorly and extend about two-thirds length of jaw; 2–4 irregular series of smaller teeth and 3 or 4 symphyseal canines behind outer row anteriorly. Dentary with an outer row of moderate canines, slightly larger anteriorly; 1–3 irregular series of slightly smaller teeth behind outer row on anterior half of dentary. Vomerine teeth absent. Infraorbital bones relatively broad and without wide openings for sensory canals (Fig. 3a); third infraorbital without a suborbital shelf.

Morphometric data are given in Table 1. The most diagnostic features are the wide bony interorbital width (3.8–4.3% SL) and the relatively small orbit diameter (7.9–9.0% SL).

Color pattern. Although complex, numerous features of the color pattern are consistent in all the available specimens of *O. decorus*. The head

is characterized by a uniformly pale background on which are prominent dark spots and blotches, including the following markings: (1) dark stripe on anterior third of upper lip; (2) diagonal band extending from upper lip to anteroventral margin of orbit; (3) small spot centered on snout; (4) narrow interorbital band anteriorly; (5) blotch, about equal size of pupil diameter, touching posterodorsal rim of orbit; (6) several to numerous spots or blotches on nape including a pair adjacent to dorsal fin origin; (7) several large blotches or spots on cheek, opercle and maxilla; (8) lower lip with lateral stripe separated slightly from short symphyseal blotch; (9) short blotch just posterior to pale chin; and (10) usually one or more large, somewhat paler blotches on lower jaw. Body with five to seven dusky stripes, becoming paler ventrally; dorsal stripe on lateral line often forming a series of broken blotches. A few irregular dark bars usually present on and just above pectoral-fin base.

Dorsal fin with a narrow, dark border which tapers posteriorly and terminates before end of fin. Also present is a row of dark spots or small blotches (usually one on each interradial membrane) that parallels the dorsal contour of the spinous portion of the fin and gradually becomes more proximal as it crosses the segmented rays. A dark stripe spans the fin beneath the row of spots and terminates at the base of the last ray; this stripe is separated from

Table 1. Counts and measurements, expressed as percentage of standard length, for type specimens of *Opistognathus decorus* (*=holotype) and *O. liturus*.

	O. decorus							*O. liturus*
	URM P8133	FAKU 48887	FAKU 48889	NSMT P23161	URM P3319	ANSP 151868*	FAKU 48888	URM P8134
Sex	♂	♀	♀	♀	♂	♀	♀	?
Standard length (mm)	155.1	149.7	145.2	143.5	143.2	142.5	127.4	55.3
Predorsal length	30.4	31.2	30.4	31.8	31.1	29.7	30.2	35.8
Preanal length	62.8	63.1	66.6	66.0	65.1	65.0	65.8	63.3
Body depth	25.5	23.4	23.1	24.4	26.5	25.2	22.6	25.0
Head length	34.9	35.6	34.1	34.5	36.5	33.9	33.8	37.8
Postorbital head length	22.9	22.6	22.3	21.4	22.5	22.2	21.4	21.9
Orbit diameter	7.9	8.1	8.6	9.0	8.7	8.7	8.9	12.3
Bony interorbital width	4.0	4.0	4.2	4.0	4.3	3.8	4.0	1.9
Upper jaw length	24.2	23.8	22.6	22.4	25.3	22.6	22.9	26.2
Upper jaw width	6.1	5.6	5.0	5.9	5.8	5.2	5.3	7.8
Pelvic fin length	29.4	29.4	28.7	26.0	28.4	26.9	26.8	31.1
Caudal fin length	25.4	23.7	26.4	—	24.6	25.8	25.9	30.6
Caudal peduncle length	13.8	12.6	12.5	12.1	12.9	12.0	12.9	13.4
Caudal peduncle depth	14.2	14.0	14.3	13.9	14.4	14.1	13.7	14.8
Length 1st dorsal spine	6.6	7.0	6.5	5.6	7.1	7.2	6.7	7.2
Length 5th dorsal spine	9.9	11.1	10.7	11.7	11.4	11.0	9.5	12.3
Length 11th dorsal spine	11.7	14.4	12.7	11.4	14.7	13.7	12.6	—
Length 1st dorsal ray	16.4	16.7	13.5	14.9	17.2	16.3	15.8	—
Length 5th dorsal ray	19.5	19.9	19.1	17.0	19.9	18.5	19.1	—
Dorsal fin	XI, 12	XI, 12	XI, 12	XI, 12	XI, 12	XI, 12	XI, 12	XI, 11
Anal fin	II, 11	II, 11	II, 11	II, 11	II, 11	II, 11	II, 11	II, 10
Pectoral fin (L/R)	19/19	20/20	20/20	20/20	20/20	20/21	—/20	19/19
Procurrent caudal rays	5+4	5+4	4+4	4+4	5+4	5+4	4+4	4+4
Branched caudal rays	6+6	6+6	6+6	6+6	6+6	6+6	6+6	6+6
Vertebrae	10+16	10+16	10+16	10+16	10+16	10+16	10+16	10+16
Pleural ribs	8	8	8	8	8	8	8	8
Epipleural ribs	17	17	17	—	16	17	17	13
Oblique scale rows (L/R)	67/—	61/64	56/66	—	—/65	62/66	58/64	—/54
Upper gill rakers (L/R)	13/14	15/14	14/14	14/14	14/14	14/14	14/13	9/9
Lower gill rakers (L/R)	28/29	28/29	29/30	29/29	29/28	28/28	28/28	22/22

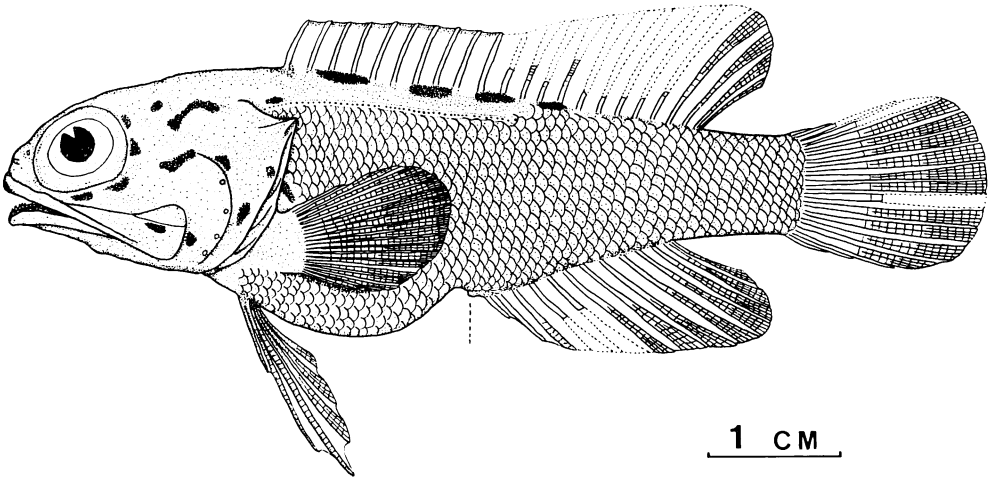

Fig. 4. *Opistognathus liturus*, holotype URM-P 8134, 55.3 mm SL, Japan, Wakayama Prefecture, Shirahama-cho. (Drawn by Tetsuo Yoshino).

the body for most of its length by a pale area slightly wider than the width of the stripe. Anal fin with a row of interradial spots across middle of fin and a narrow proximal stripe. Caudal, pectoral and pelvic fins mostly pale, except caudal fin often with narrow, dark dorsal and ventral margins. (Caudal fin of illustrated specimen has pale margins.)

The following color description is based on a color sketch and notes of a freshly collected specimen of *O. decorus*, and a color slide taken of the same individual after it had been frozen for two months. In life, ground coloration of head, body and fins bright yellow, except belly white. Dark markings on head and fins violet blue. Stripes on body pale violet blue, becoming paler below; except uppermost stripe (which mostly consists of a row of blotches) is as dark as blotches on head.

After death, ground coloration of head and upper body fading to light brown, and that of fins pale yellow; stripes and blotches becoming brownish purple.

Etymology. The Latin name *decorus* (beautiful), is especially appropriate for this attractive and brightly colored species.

Opistognathus liturus sp. nov.
(Japanese name: Seto-amadai)
(Figs. 2b, 3b, 4)

Opisthognathidae sp. Araga and Tanase, 1966: 158 (listed; Wakayama Pref.).

Opistognathus sp. 2 Yoshino *in* Masuda *et al.*, 1984: 201, pl. 351-C (brief descr.; Wakayama Pref.).

Holotype. URM-P 8134, 55.3 mm SL, Wakayama Prefecture, Shirahama-cho, beach near Seto Marine Biological Laboratory, 33°41′N, 135°21′E, stranded by typhoon no. 23, 10 Sept. 1965.

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 11; anal fin II, 10; body with about 54 oblique scale rows in longitudinal series; 31 total gill rakers on first arch; maxilla truncate widest at end with terminally positioned supramaxilla, upper jaw 69.4% head length; dark blotches on head only present laterally.

Description. Dorsal fin XI, 11; anal fin II, 10; pectoral-fin rays 19. Vertebrae: 10 precaudal +16 caudal; epipleural ribs 13; last pleural rib on vertebra 10. Predorsal bones 2. Caudal fin: segmented rays 8+8, middle 12 branched; procurrent rays 4+4; hypural 5 present. Gill rakers: 9+22.

Scales absent on head, nape, above lateral line, breast and pectoral-fin base. Body with about 54 oblique scale rows in longitudinal series. Lateral line terminates below a vertical from base of 4th segmented dorsal-fin ray on right side (damaged on left side). Lateral-line pores sparce, mostly arranged in a single row along embedded lateral-line tubes. Cephalic sensory pores relatively sparce, all mandibulo-preopercular pore positions occupied by single pores except dorsalmost (both sides) which has a pair of pores (Fig. 2b).

Anterior nostril positioned about mid-way between margin of upper lip and posterior nostril, and consisting of a short tube that does not reach margin of posterior nostril when depressed; height of anterior nostril shorter than maximum diameter of posterior nostril. Dorsal fin moderately low, gradually increasing in height to about middle of spinous dorsal fin; most of segmented rays broken off but based on height of undamaged rays, profile of fin relatively uniform gradually increasing in height posteriorly. Dorsal-fin spines moderately slender, straight without curved, flexible tips; posterior segmented anal-fin rays branched distally (anterior dorsal-fin rays damaged); outermost segmented pelvic-fin ray not tightly bound to adjacent ray, interradial membrane incised distally. Upper margin of opercle straight and rounded posterodorsally, not consisting of a broad truncated flap; posterior margin of preopercle indistinct, without a free margin. No small papillae on inner surface of lips anteriorly. Fifth cranial nerve passes under A1β branch of adductor mandibulae muscle.

Maxilla extends about 0.75 eye diameters behind orbit; maxilla widest at end and truncate; supramaxilla present, moderately large and terminally positioned. Jaws subequal, lower included. Premaxilla with an outer row of stout teeth anteriorly that become progressively smaller posteriorly; 2 or 3 irregular series of smaller teeth and several enlarged symphyseal teeth (posterior ones almost horizontally aligned) behind outer row anteriorly. Dentary with an outer row of moderate canines anteriorly behind which are 2 or 3 rows of similar teeth, posteriormost of which are slightly enlarged and canted inward; posterior half of dentary with a single row of 4–6 relatively widely spaced moderate canines. Vomerine teeth absent. Infraorbital bones relatively slender and tubular, with wide openings for sensory canals (Fig. 3b); third infraorbital bone without a suborbital shelf and somewhat T-shaped with the longest arm projecting posteroventrally.

Morphometric data are given in Table 1. The most diagnostic features are the narrow bony interorbital width (1.9% SL) and the large orbit diameter (12.3% SL).

Color pattern. The single available specimen has partially damaged fins; the apparent color pattern is shown in Fig. 4. Head, body and fins uniformly pigmented except as noted. Posterior half of orbit bordered with four dark blotches, smaller than pupil. A few irregularly shaped dark blotches scattered on cheek and opercle. Single dark spot or blotch on maxilla, on upper lip at symphysis, on body just above pectoral-fin base and on nape near origin of lateral line. Dorsum with a row of four dark blotches that extend slightly on to dorsal fin: the first blotch between spines 2–5, the second between spines 7–9, the third between 10th spine and 1st ray, and the last between rays 2–3. Spinous dorsal fin with a narrow dark distal margin.

Life coloration unknown.

Etymology. The Latin name *liturus* (blotted), refers to the conspicuous dark markings on the head of this species.

Opistognathus castelnaui Bleeker, 1874
(Japanese name: Wani-amadai)

Opistognathus castelnaui Bleeker, 1859: 450 (name only); Bleeker, 1860: 45 (name only); Bleeker, 1861: 57 (name only); Bleeker, 1862: 111 (name only); Yoshino *in* Masuda *et al.*, 1984: 200, pl. 191-F (brief descr.; Ryukyu Is.).

Opisthognathus castelnaui Bleeker, 1874: 469, pl. 9, fig. 4 (orig. descr.; Singapore, Bintang, Celebes, Batjan and Cocos Is. [Novaselma]); De Beaufort and Chapman, 1951: 35 (synonymy, descr.); Yoshino *et al.*, 1975: 91 (listed; Ryukyu Is.); Kyushin *et al.*, 1982: 183, fig. 162 (brief descr.; South China Sea).

Opisthognathus suluensis Herre, 1933: 25 (orig. descr.; Sitankai, Sibutu Is., Sulu Archipelago); Kailola, 1975: 196 (listed; Darnley Is., Torres Strait).

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 14; anal fin III, 14; vertebrae 10+18; body with 87 to 105 oblique scale rows in longitudinal series; 29 to 35 total gill rakers on first arch; maxilla slightly curved upward and tapered posteriorly with distinctly subterminally positioned supramaxilla, in adults upper jaw 84 to 100% head length; dorsal fin often with a basal row of 8 dark blotches that extend on to body; inner lining of upper jaw and adjacent membranes with two conspicuous dark stripes.

Material examined. 27 specimens, 119–242.5 mm SL. RMNH 26979 (177, lectotype of *O. castelnaui* Bleeker) Celebes, Bulucomba. CAS-SU 25508 (161.2, holotype of *O. suluensis* Herre) Philippines, Sulu Prov., Sitankai. FAKU 48891–93 (3, 205–242.5) Okinawa, Naha fish market. IORD 81–171

and 81–172 (2, 132.8–200) Ryukyu Islands, Iriomote-jima. Also, 20 additional specimens, 119–178, from non-Japanese localities.

Opistognathus evermanni
(Jordan et Snyder, 1902)
(Japanese name: Niji-amadai)

Gnathypops evermanni Jordan and Snyder, 1902: 493, fig. 6 (orig. descr.; Wakanoura, Kii); Kamohara, 1952: 53 (brief descr.; Kochi); Kamohara, 1958: 68 (listed; Kochi); Masuda *et al.*, 1975: 259, pl. 83-A (brief descr.; southern Japan).

Opistognathus evermanni: Fourmanoir, 1965: 75, fig. 48 (color descr.; Nha-Trang, Vietnam); Machida *in* Masuda *et al.*, 1984: 200, pl. 191-G (brief descr.; Japan).

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 10 or 11; anal fin II, 10; vertebrae 10+16; body with 40 to 46 oblique scale rows in longitudinal series; 26 to 31 total gill rakers on first arch; maxilla truncate widest at end with terminally positioned supramaxilla, in adults upper jaw 65 to 68% head length; head and inner lining of upper jaw uniformly pigmented; caudal fin with a broad dark band, followed by a pale band and a terminal dark band.

Material examined. 15 specimens, 56.3–81.8 mm SL. CAS-SU 6548 (62.6, holotype of *G. evermanni* Jordan et Snyder) Wakanoura, Kii. USNM 50279 (1, 58.6) same data as holotype. BSKU 7632 (1, 78.2) Tokushima Pref. UMMZ 199004 (1, 56.3) Nagasaki vicinity. URM-P 8132 (9, 61.2–81.8) Tanabe Bay, Wakayama Pref. URM-P 8295 (1, 81.5) Uwajima, Ehime Pref. One additional specimen 81.5 mm, from Vietnam.

Opistognathus hopkinsi
(Jordan et Snyder, 1902)
(Japanese name: Ago-amadai)

Gnathypops hopkinsi Jordan and Snyder, 1902: 492, fig. 5 (orig. descr.; Misaki); Ochiai and Asano, 1963: 75, fig. 1 (descr.; Oki Is.); Arai and Abe, 1970: 91, pl. 18, fig. 1 (Tsushima Is.).

Opistognathus hopkinsi: Machida *in* Masuda *et al.*, 1984: 200, pl. 351-B (brief descr.; Japan).

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 13; anal fin II, 11 or 12; vertebrae 10+17; body with 51 to 53 oblique scale rows in longitudinal series; 41 to 47 total gill rakers on first arch; maxilla truncate, widest at end with terminally positioned supramaxilla, in adults upper jaw 60 to 79% head length; head brownish with a pale band extending diagonally from posterior end of jaw across nape; dorsal fin brownish with a pale (yellow in life) medial stripe.

Material examined. 4 specimens, 61.8–106.8 mm SL. CAS-SU 6541 (106.8, holotype of *G. hopkinsi* Jordan et Snyder) Misaki, Tokyo Bay. FAKU 48894 (1, 74.4) Oki Is., Shimane Pref. FRSKU S. 178 (1, 61.8) Tsushima Is., Nagasaki Pref. NSMT-P 9337 (1, 86.0) Tsushima Is., Nagasaki Pref.

Opistognathus iyonis
(Jordan et Thompson, 1913)
(Japanese name: Nirami-amadai)

Gnathypops iyonis Jordan and Thompson, 1913: 65, fig. 1 (orig. descr.: Yawatahama, Iyo, Japan).

Merogymnus iyonis: Kamohara, 1956: 2 (brief descr.; Mimase); Kamohara, 1958: 68 (listed; Kochi Pref.); Honma, 1957: 110 (brief descr.; Echigo Prov.); Katayama and Fujioka, 1958: 1156, fig. 5 (brief descr.; Yamaguchi Pref.).

Opisthognathus iyonis: Kimura and Suzuki, 1982: 10, fig. 11 (brief descr.; Goza, Mie Pref.).

Opistognathus iyonis: Yoshino *in* Masuda *et al.*, 1984: 200, pl. 191-E (brief descr.; Japan).

Diagnosis. A species of *Opistognathus* with dorsal fin XI, 14; anal fin II, 14; vertebrae 10+19; body with 45 or 46 oblique scale rows in longitudinal series; 27 to 35 total gill rakers on first arch; maxilla curved downward and broadly rounded posteriorly with subterminally positioned supramaxilla, in adults upper jaw 69 to 74% head length; dorsal fin with dusky spot between 5th to 8th spine; inner lining of upper jaw with dark blotch at rictus.

Material examined. 10 specimens, 17.4–67.2 mm SL. USNM 74763 (61.9, holotype of *G. iyonis* Jordan et Thompson) Yawatahama, Iyo Prov. ANSP 148087 (3, 63–67.2) 7 km SW of Kurahashi I., Hiroshima Bay, Hiroshima Pref. BSKU 4477 (1, 56.9) Mimase, Kochi Pref. FAKU 50550 (1, 17.4) Sea of Goto, 32°57.5′N, 129°30′E. FRLM 2819 (1, 59.2) mouth of Ago Bay at Goza, Mie Pref. NSMT-P 23162 (3, 51–56.8) Ushima Is.

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(WFS-V: Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pennsylvania, U.S.A. 19103; TY: Department of Marine Sciences, University of the Ryukyus, Senbaru 1, Nishihara, Oki-

nawa 903–01, Japan)

日本産アゴアマダイ属魚類 *Opistognathus* の再検討

William F. Smith-Vaniz・吉野哲夫

日本産アゴアマダイ属魚類 *Opistognathus* を再検討した結果，既知の 4 種の他にイレズミアマダイ *O. decorus* およびセトアマダイ *O. liturus* の 2 新種を確認した．前種は沖縄島，後種は和歌山県白浜で採集されたものであり，いずれも頭部に顕著な斑点をもつことや背鰭軟条数が 11～12 と少ないことで，他種とは明瞭に区別される．イレズミアマダイは鰓耙数が多いこと，頭部感覚孔数が少ないこと，両眼間隔が広いこと，眼径が小さいこと，眼下骨の形が異なることなどでセトアマダイと区別できる．

従来用いられた *Gnathypops* や *Merogymnus* は *Opistognathus* のシノニムであり，上記の 2 新種を含めた日本産本属魚類の検索表を作製した．

(Smith-Vaniz: 米国　フィラデルフィア自然科学アカデミー；吉野: 903–01 沖縄県中頭郡西原町千原　琉球大学理学部海洋学科)