First Confirmed Record of the Samoan Pipefish *Halicampus mataafae* (Perciformes: Syngnathidae) from Japan

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A single specimen (135.5 mm standard length) of the Indo-West Pacific species *Halicampus mataafae* (Jordan and Seale, 1906), previously known to range from the Red Sea and South Africa to Taiwan and Australia, was collected from Yoron Island, Amami Islands, Ryukyu Islands, Japan. A detailed description is given for the specimen, being the first collected from Japanese waters and northernmost record of the species.

**Key Words:** description, distribution, Yoron Island, Amami Islands, Ryukyu Islands.

**Introduction**


During an ichthyofaunal survey at Yoron Island, Amami Islands, Ryukyu Islands, Japan in July 2017, a single pipefish specimen was collected from shallow dead coral reefs and subsequently identified as *Halicampus mataafae* (Jordan and Seale, 1906), a widely distributed (Red Sea and South Africa to Taiwan and Australia) Indo-West Pacific species (Dawson 1985). The Yoron Island specimen is described herein, being the first confirmed record of *H. mataafae* from Japan and northernmost record of the species.

**Materials and Methods**

Counts and measurements followed Dawson (1977, 1985) and Matsunuma (2017). Anatomical terminology followed Dawson (1985). Head and standard lengths are abbreviated as HL and SL, respectively. Descriptive characters are based on the Yoron Island specimen. Curatorial procedures followed Motomura and Ishikawa (2013), the specimen being deposited in the Kagoshima University Museum, Kagoshima, Japan (KAUM).

*Corythroichthys mataafae* Jordan and Seale 1906: 213, fig. 19 (type locality: off Mulini‘u, Upolu Island, Samoa).

*Halicampus mataafae*: Dawson 1985: 89, fig. 134 (Red Sea; South Africa; Réunion; Mauritius; Chagos Archipelago; Sri Lanka; Andaman Sea; Taiwan; Marshall Islands; Indonesia; Samoa; Lizard Island, Australia); Winterbottom et al. 1989: 19, fig. 101 (Chagos Archipelago); Randall 1995: 101, fig. 216 (Oman, Arabian Sea); Randall and Lim 2000: 604 (South China Sea); Allen and Erdmann 2003: 28 (West Papua to Sumatra, Indonesia); Manilo and Bogorodsky 2003: 5101 (Oman, Arabian Sea); Myers and Donaldson 2003: 614 (Mariana Islands); Randall et al. 2003: 10 (Tonga); Fricke 2004: 29 (New Caledonia); Fricke et al. 2009: 37 (Réunion); Kuiter 2009: 267, unnumbered fig. (Lizard Island, Australia); Fricke et al. 2011: 375 (New Caledonia); Allen and Erdmann 2012: 197, unnumbered fig. (in part; Red Sea, East Africa to Marshall Islands, Australia, and Samoa; see Remarks on Ryukyu Islands record); Fricke et al. 2014: 46 (Madang, Papua New Guinea).

**Material examined.** KAUM–I. 104496, 135.5 mm SL, male, off Chabana, Yoron Island, Amami Islands, Ryukyu Islands, Japan (27°02′57″N, 128°24′42″E), 2.5 m depth, hand
Description. Counts and measurements shown in Table 1; body and lateral views of head illustrated in Figs 1 and 2, respectively. Body elongate, trunk obviously shorter than tail, 1st trunk ring bearing pectoral-fin base, its length slightly greater than 2nd ring. Double oval-shaped nostril prominent, with membranous fold, at level with middle of eye. Pectoral fin present, with rounded contour. Dorsal fin originating on trunk. Small anal fin just behind anus. Caudal fin small, rounded. Two bluntly tipped spines on lateral surface of snout. A bluntly tipped spine behind orbit, larger than spines on snout. A small, bluntly tipped spine on preorbital. No spines on postorbital region. Median dorsal snout ridge discontinuous, ending on interorbital, with 3 distinct ridges joined at base. Dorsal rim of orbit weakly elevated. Longitudinal opercular ridge incomplete, its length originating on trunk. Small anal fin just behind anus. Caudal fin small, rounded. Two bluntly tipped spines on lateral surface of snout. A bluntly tipped spine behind orbit, larger than spines on snout. A small, bluntly tipped spine on preorbital. No spines on postorbital region. Median dorsal snout ridge discontinuous, ending on interorbital, with 3 distinct ridges joined at base. Dorsal rim of orbit weakly elevated. Longitudinal opercular ridge incomplete, its length originating on trunk. Small anal fin just behind anus. Caudal fin small, rounded. Two bluntly tipped spines on lateral surface of snout. A bluntly tipped spine behind orbit, larger than spines on snout. A small, bluntly tipped spine on preorbital. No spines on postorbital region. Median dorsal snout ridge discontinuous, ending on interorbital, with 3 distinct ridges joined at base. Dorsal rim of orbit weakly elevated. Longitudinal opercular ridge incomplete, its length originating on trunk. Small anal fin just behind anus. Caudal fin small, rounded. Two bluntly tipped spines on lateral surface of snout. A bluntly tipped spine behind orbit, larger than spines on snout. A small, bluntly tipped spine on preorbital. No spines on postorbital region. Median dorsal snout ridge discontinuous, ending on interorbital, with 3 distinct ridges joined at base. Dorsal rim of orbit weakly elevated. Longitudinal opercular ridge incomplete, its length
First Japanese record of *Halicampus mataafae*

about one fourth of opercle length. Supraorbital, suborbital and supraopercular ridges present. Superior trunk and tail ridges discontinuous, margins of superior trunk ridges without spines or serrations. Lateral tail ridge extending to vertical through origin of anal-fin base but not reaching to origin of dorsal fin. Inferior trunk and tail ridges discontinuous. Inferior trunk ridge ending at posterior margin of anal ring. Posterior end of lateral trunk ridge curved ventrally, confluent with inferior tail ridge above anal-fin base. All principal body ridges slightly elevated, with margin entire. Pectoral-fin base protruding laterally, with a distinct longitudinal ridge longer than ridge on opercle. Long, cylindrical, unbranched and distally broad lobate dermal flaps on dorsal and ventrolateral regions of head. Several dermal flaps laterally on opercle and pectoral fin-base, all much shorter than those on other regions on head. Dermal flaps on trunk and tail rings minute. Membranous folded brood pouch under tail, partially closed.

Color when fresh (Fig. 1A). Head and body greyish. Snout with two brownish bars. Eye with about eight radiating brownish lines. Area behind eye and lateral surface of opercle with several irregular brownish markings. Inner area of scutella whitish with brownish margins. Reddish to brownish blotches on 3rd, 7th and 11th trunk scutella. Dor- sal, anal and pectoral fins semi-translucent. Caudal fin whitish.

Color of preserved specimen (Fig. 1B). Head and body white to yellowish. Undersurface of tail whitish. All body markings similar to those when fresh, but brownish (including blotches on several trunk scutella).

**Remarks.** The Yoron Island specimen agreed closely with the diagnostic characters and morphological description of *Halicampus mataafae* (Jordan and Seale, 1906) given by Dawson (1985): *e.g.*, 15 trunk rings; 22 dorsal-fin rays; 0.75+4.25 subdorsal-fin rings; 12 pectoral-fin rays; 3 anal-fin rays; head length 12.8 in SL; snout depth 1.8 in snout length; median dorsal snout ridge discontinuous, with 3 distinct ridges; 2 spines on lateral surface of snout; dorsal rim of orbit weakly elevated; no spines on postorbital and posterior supraorbital regions; opercular ridge incomplete; pectoral fin-base protruding laterally, with a distinct ridge; principal body ridges slightly elevated, margins entire.

*Halicampus mataafae* can be distinguished from all other Indo-Pacific congeners by the relatively greater numbers of trunk rings and dorsal-fin rays [15 and 21–26, respectively, vs. 13–15 (usually 14), except for *H. grayi* with 17–18, and <22, respectively, in the latter; Dawson 1985].

Indo-Pacific species of *Halicampus* can be separated into three groups, based on median dorsal snout ridge ornamentation (Dawson 1985). Those with minute spines include two species, *H. grayi* and *H. macrorhynchus*; those with a continuous ridge, six species, *H. boothae*, *H. dunkeri*, *H. edmondsoni*, *H. marquesensis*, *H. punctatus*, and *H. zavoren- sis*; and those with a discontinuous ridge, the four remaining species, including *H. mataafae*. In addition to trunk ring and dorsal-fin ray numbers, *H. mataafae* can be distinguished from other species of the third group by its relatively greater snout depth [1.2–2.7 in snout length (Dawson

| Table 1. Counts and measurements of *Halicampus mataafae* from Yoron Island, Ryukyu Islands, Japan. |

<table>
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<th>KAUM–I. 104496</th>
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<td><strong>Standard length (mm; SL)</strong></td>
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<td><strong>Counts</strong></td>
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<td>Dorsal-fin rays</td>
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<td>Pectoral-fin rays</td>
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<td>Head length (HL)</td>
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<td>Anal-ring depth</td>
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<td>Pectoral-fin base length</td>
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<td>Caudal-fin length</td>
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1985; this study) vs. 2.0–2.6 in H. nitidus, 2.3–3.2 in H. spinirostris, and 2.4–4.5 in H. brocki (Dawson 1985)], margin of superior ridges entire (Dawson 1985; this study) [vs. serrated in H. brocki and H. nitidus, and denticulate in H. spinirostris (Dawson 1985)], and many cylindrical, unbranched and distally broad lobate dermal head flaps (Kuiter 2009: 267, unnumbered fig.; Allen and Erdmann 2012: 197, unnumbered fig.; this study, Fig. 2A; dermal flaps easy lost or damaged after preservation, Fig. 1B) [vs. a few dermal flaps (usually only on dorsum of head) with complex branches in H. brocki and H. spinirostris, and many dermal flaps, flat, unbranched and slightly broadened distally in H. nitidus (Dawson 1985; Senou 2013)].

_Halicampus mataafae_ has previously been recorded in the Indo-West Pacific, including the northern Red Sea, South Africa, Réunion, Mauritius, the Chagos Archipelago, the Arabian Sea, Sri Lanka, the Andaman Sea, the South China Sea (including Taiwan), the Mariana Islands, the Marshall Islands, Indonesia, Papua New Guinea, New Caledonia, Tonga, Samoa and Australia (Dawson 1985; Randall 1995; Randall and Lim 2000; Allen and Adrim 2003; Myers and Donaldson 2003; Randall et al. 2003; Kuiter 2009; Fricke et al. 2011, 2014). Although Allen and Erdmann (2012) included the Ryukyu Islands within the distributional range of _H. mataafae_, the record was unsupported, there being neither underwater photographs nor voucher specimens of the species from that locality (G. Allen, pers. comm.). Therefore, the present specimen from Yoron Island represents the first reliable record from Japanese waters and northernmost record for the species.

A new standard Japanese name, Chabana-umiyakko, is proposed for _H. mataafae_. “Chabana” being the collection locality of the species. Moreover, “chabana” can also refer to “green tea flower”, reminiscent of the distally broad lobate dermal head flaps characteristic of the species; “umiyakko” is the common Japanese name for pipefishes.

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**References**


First Japanese record of *Halicampus mataafae*


