

The ichthyofauna of the Uji Islands, East China Sea: 148 new records of fishes with notes on biogeographical implications

Hiroyuki Motomura^{1*}, Akimasa Habano², Youichi Arita², Midori Matsuoka², Kazuhiko Furuta³,
Keita Koeda¹, Tomohiro Yoshida⁴, Yusuke Hibino⁵, Byeol Jeong⁴, Satokuni Tashiro⁴, Harutaka Hata⁶,
Yoshino Fukui⁶, Keisuke Eguchi⁶, Tomoki Inaba¹, Takuya Uejo¹, Ai Yoshiura², Yukino Ando²,
Yuriko Haraguchi¹, Hiroshi Senou⁷, Kaoru Kuriwa⁸

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Abstract

An annotated checklist of the marine fishes of the Uji Islands in the East China Sea, Kagoshima Prefecture, southern Japan, was compiled on the basis of 560 specimens from field and literature surveys. All registered specimens previously recorded from the Uji Islands in published papers were re-examined. A total of 153 species (126 genera and 70 families) plus one hybrid individual of the Oplegnathidae, including 148 species that represent the first records from the islands on the basis of collected specimens, are listed with citations of literature, registration numbers, sizes, nomenclatural and taxonomic remarks, and color photographs if available. The zoogeographical implications of the Uji Islands ichthyofauna are discussed.

Introduction

The Uji Islands, a group of six uninhabited islands, is located at the northwestern extremity of the Ryukyu Islands (31°11'N, 129°27'E), north of the Okinawa Trough and west of the East China Sea continental shelf. It is also ca. 65 km west of the western coast of the Satsuma Peninsula (Kagoshima mainland) between Koshiki and Kusagaki islands (Fig. 1). The Uji Islands have a combined area of ca. 1.7 km² and a highest point above sea level of 319 m. The islands are surrounded mostly by rocky reefs with small patchy coral reefs; there are no sandy beaches nor freshwater rivers around or on the islands.

Fishes occurring on the East China Sea continental shelf and in the Okinawa Trough have been well surveyed and their species lists were published by Yamada *et al.*¹⁾ and Shinohara *et al.*²⁾ respectively. Recently, fishes of islands in the Osumi Group, including Yaku-shima, Iou-jima, and

Take-shima islands, were comprehensively investigated and field guides^{3,4)} were published. Fukui *et al.*⁵⁾ recorded 23 species from deepwater off Kuro-shima island in the Osumi Group. Although the fish faunas of such islands nearby the Uji Islands have been relatively well surveyed, only four papers recording fish species of the Uji Islands have been published (on the basis of specimens deposited at the Kagoshima University Museum): viz., Shimada⁶⁾, Yamashita *et al.*⁷⁾, Hata *et al.*⁸⁾, and Jeong *et al.*⁹⁾.

This paper provides a list of 153 species of marine fishes (126 genera and 70 families), plus one hybrid individual of the Oplegnathidae, occurring off the Uji Islands on the basis of 560 collected specimens. Previously reported specimens from the islands were re-identified during this study. The zoogeographical implications of the Uji Islands ichthyofauna are discussed.

¹ The Kagoshima University Museum, 1-21-30 Korimoto, Kagoshima 890-0065, Japan

² Faculty of Fisheries, Kagoshima University, 4-50-20 Shimoarata, Kagoshima 890-0056, Japan

³ School & Diving Service Umikobo, 4-30-5 Shimoarata, Kagoshima 890-0056, Japan

⁴ The United Graduate School of Agricultural Sciences, Kagoshima University, 1-21-24 Korimoto, Kagoshima 890-0065, Japan

⁵ Fisheries Research Laboratory, Mie University, 4190-172 Wagu, Shima, Mie 517-0703, Japan

⁶ The Graduate School of Fisheries, Kagoshima University, 4-50-20 Shimoarata, Kagoshima 890-0056, Japan

⁷ Kanagawa Prefectural Museum of Natural History, 499 Iryuda, Odawara, Kanagawa 250-0031, Japan

⁸ National Museum of Nature and Science, 4-1-4 Amakubo, Tsukuba, Ibaraki 305-0005, Japan

*Corresponding author, E-mail: motomura@kaum.kagoshima-u.ac.jp

Materials and Methods

In this paper, fishes collected from waters within a 20-kilometer radius of the Uji Islands are listed; some fishes collected from outside the Uji area, such as 50 km off the Uji Islands, were listed by Fukui *et al.*⁵⁾ as “fishes off Kuro-shima island”. Most specimens were collected by scuba diving and line-fishing during the RV *Nansei-maru* voyage on 21–23 April 2015 (Fig. 2), by free diving during a fishing boat expedition on 20–21 July 2013, and by purchasing fishes from the Uji Islands that were landed at the Kagoshima Central Fish Market. Additionally, some old specimens (possibly collected in the 1950’s) were found in the collection of the Faculty of Fisheries, Kagoshima University. Curatorial procedures for newly collected specimens followed Motomura and Ishikawa¹⁰⁾.

The systematic arrangement of families follows Nelson¹¹⁾. Scientific names generally follow Nakabo¹²⁾ and Eschmeyer¹³⁾, with some modifications by recently published or unpublished taxonomic studies. Species in families are arranged in alphabetical order by species name. Standard Japanese names (abbreviated as ‘Jpn name’) follow Nakabo¹²⁾, and are transliterated using the Hepburn system. Each species record was compiled from voucher specimens and literature sources. Data for each voucher specimen comprises registration number and standard length [SL; sometimes total length (TL) or disc

width (DW)]. Distributional and other remarks are included for some species. The list of specimens is followed by literature cited. Specimens collected from the Uji Islands have been deposited at collections of the Kagoshima University Museum, Kagoshima, Japan (KAUM), and the Kanagawa Prefectural Museum of Natural History, Odawara, Japan (KPM).

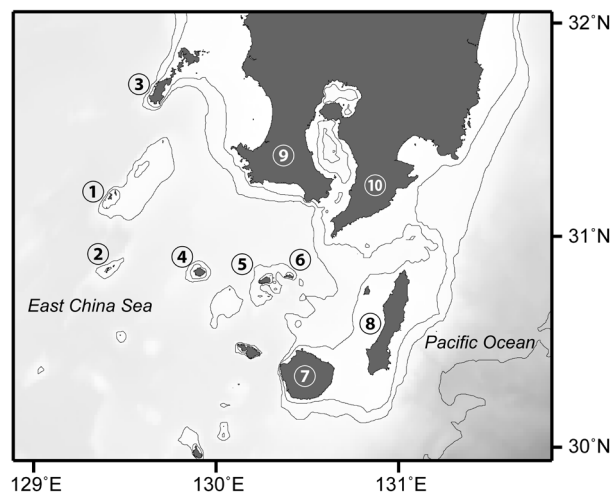


Fig. 1. Map of southern Kyushu and adjacent islands, Japan. Numbers in the map show major places mentioned in the text: 1, Uji Islands; 2, Kusagaki Islands; 3, Koshiki Islands; 4, Kuro-shima island; 5, Iou-jima island; 6, Take-shima island; 7, Yaku-shima island; 8, Tanegashima island; 9, Satsuma Peninsula; 10, Osumi Peninsula. Numbers 4–8 belong to the Osumi Islands.



Fig. 2. Photographs from ichthyofaunal surveys in the Uji Islands. A, Uji-shima island; B, Uji Fishing Port; C, operating bottom long-lines from RV *Nansei-maru*; D, line-fishing off the Uji Islands; E–F, scuba diving surveys (photo F taken by M. Matsuoka; other photos by H. Motomura).

Annotated Checklist of Fishes from the Uji Islands

SCYLIORHINIDAE

Galeus eastmani (Jordan and Snyder, 1904)

[Jpn name: Yamorizame] Fig. 3A

Material examined. KAUM-I. 46861, 430.8 mm TL.

Scyliorhinus torazame (Tanaka, 1908)

[Jpn name: Torazame] Fig. 3B

Yamashita *et al.*⁷⁾: 122 (record of one specimen, KAUM-I. 15603, from the Uji Islands).

Material examined. KAUM-I. 15603, 156.9 mm TL; KAUM-I. 46860, 430.8 mm TL.

TRIAKIDAE

Mustelus manazo Bleeker, 1855

[Jpn name: Hoshizame] Fig. 3C

Material examined. KAUM-I. 72668, 876.0 mm TL.

SQUALIDAE

Squalus japonicus Ishikawa, 1908

[Jpn name: Togaritsunozame]

Material examined. KAUM-I. 46823, 345.0 mm TL.

Squalus mitsukurii Jordan and Snyder, 1903

[Jpn name: Futotsunozame] Figs. 3D–E

Material examined. KAUM-I. 72664, 574.0 mm TL; KAUM-I. 72665, 591.0 mm TL; KAUM-I. 72666, 510.0 mm TL; KAUM-I. 72667, 555.0 mm TL.

ETMOPTERIDAE

Etmopterus brachyurus Smith and Radcliffe, 1912

[Jpn name: Hosofujikujira] Fig. 3F

Material examined. KAUM-I. 46218, 226.0 mm TL; KAUM-I. 46222, 245.5 mm TL; KAUM-I. 46223, 205.8 mm TL; KAUM-I. 46323, 186.0 mm TL; KAUM-I. 46324, 204.0 mm TL; KAUM-I. 46326, 186.0 mm

TL; KAUM-I. 46327, 191.5 mm TL; KAUM-I. 46328, 218.5 mm TL; KAUM-I. 46329, 175.0 mm TL; KAUM-I. 46330, 412.0 mm TL; KAUM-I. 46829, 403.8 mm TL; KAUM-I. 46830, 261.3 mm TL; KAUM-I. 46831, 159.7 mm TL; KAUM-I. 46866, 182.5 mm TL; KAUM-I. 46867, 245.7 mm TL; KAUM-I. 46868, 298.2 mm TL.

Etmopterus molleri (Whitley, 1939)

[Jpn name: Hiretakafujikujira] Fig. 3G

Yamashita *et al.*⁷⁾: 126 (records of 2 specimens, KAUM-I. 15605, 15619, from the Uji Islands).

Material examined. KAUM-I. 15605, 195.6 mm TL; KAUM-I. 15619, 98.9 mm TL; KAUM-I. 46216, 369.0 mm TL; KAUM-I. 46217, 334.0 mm TL; KAUM-I. 46219, 187.2 mm TL; KAUM-I. 46220, 179.2 mm TL; KAUM-I. 46221, 171.1 mm TL; KAUM-I. 46224, 178.8 mm TL; KAUM-I. 46318, 297.1 mm TL; KAUM-I. 46319, 267.0 mm TL; KAUM-I. 46320, 291.9 mm TL; KAUM-I. 46321, 368.6 mm TL; KAUM-I. 46322, 344.1 mm TL; KAUM-I. 46325, 330.0 mm TL; KAUM-I. 46827, 314.3 mm TL; KAUM-I. 46828, 272.8 mm TL; KAUM-I. 46863, 195.0 mm TL; KAUM-I. 46864, 291.2 mm TL; KAUM-I. 46865, 256.1 mm TL; KAUM-I. 46869, 145.0 mm TL; KAUM-I. 46870, 188.5 mm TL; KAUM-I. 46871, 331.0 mm TL; KAUM-I. 46892, 365.2 mm TL.

RAJIDAE

Dipturus gigas (Ishiyama, 1958)

[Jpn name: Zoukasube] Fig. 3H

Material examined. KAUM-I. 46862, 129.8 mm DW.

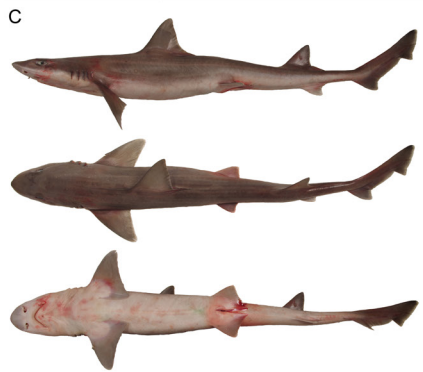
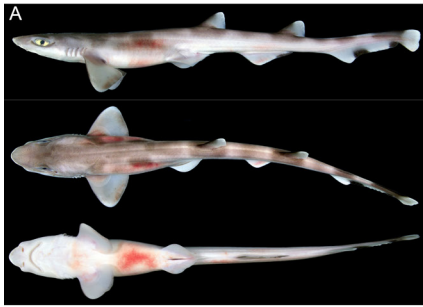
Dipturus tengu (Jordan and Fowler, 1903)

[Jpn name: Tengukasube] Fig. 3I

Yamashita *et al.*⁷⁾: 129 (record of one specimen, KAUM-I. 15620, from the Uji Islands as *Dipturus kwangtungensis*).

Material examined. KAUM-I. 15620, 105.7 mm DW;

Page 13: Fig. 3. Fishes of the Uji Islands – 1. A, *Galeus eastmani*, KAUM-I. 46861, 430.8 mm TL; B, *Scyliorhinus torazame*, KAUM-I. 15603, 156.9 mm TL; C, *Mustelus manazo*, KAUM-I. 72668, 876.0 mm TL; D, *Squalus mitsukurii*, female, KAUM-I. 72664, 574.0 mm TL; E, *Squalus mitsukurii*, male, KAUM-I. 72666, 510.0 mm TL; F, *Etmopterus brachyurus*, KAUM-I. 46829, 403.8 mm TL; G, *Etmopterus molleri*, KAUM-I. 46827, 314.3 mm TL; H, *Dipturus gigas*, KAUM-I. 46862, 129.8 mm DW; I, *Dipturus tengu*, KAUM-I. 46836, 493.8 mm DW; J, *Echidna nebulosa*, KAUM-I. 43849, 544.0 mm TL; K, *Muraena pardalis*, KAUM-I. 71859, 630.7 mm TL; L, *Myrichthys maculosus*, KAUM-I. 54644, 1244.0 mm TL; M, *Conger myriaster*, KAUM-I. 46895, 396.9 mm TL; N, *Glossanodon semifasciatus*, KAUM-I. 46893, 180.5 mm SL; O, *Polyipnus stereope*, KAUM-I. 46844, 44.4 mm SL; P, *Polymetme elongatus*, KAUM-I. 46852, 126.9 mm SL; Q, *Diaphus garmani*, KAUM-I. 46854, 47.9 mm SL; R, *Diaphus suborbitalis*, KAUM-I. 46873, 65.6 mm SL.



KAUM-I. 46836, 493.8 mm DW; KAUM-I. 46896, 541.0 mm DW; KAUM-I. 46898, 520.0 mm DW; KAUM-I. 46899, 419.0 mm DW.

Remarks. In Japanese waters, this species has previously been known from Hokkaido to Shimane Prefecture in the Sea of Japan coast and from Aomori to northern Miyazaki prefectures on the Pacific coast¹⁴⁾. In addition, two specimens of *D. tenu* (KAUM-I. 4364, 4365) were recorded from off Nomaie off the west coast of the Satsuma Peninsula, Kagoshima, Japan⁷⁾. The present specimens represent the southernmost records of the species in Japanese waters.

MURAENIDAE

Echidna nebulosa (Ahl, 1789)

[Jpn name: Kumoutsubo] Fig. 3J

Material examined. KAUM-I. 43849, 544.0 mm TL.

Muraena pardalis Temminck and Schlegel, 1846

[Jpn name: Torautsubo] Fig. 3K

Material examined. KAUM-I. 71858, 609.9 mm TL;

KAUM-I. 71859, 630.7 mm TL.

Remarks. Relatively common in the Uji Islands and southern Japan, but rare in the Ryukyu Islands. This species is often treated as *Enchelycore pardalis*.

OPHICHTHIDAE

Myrichthys maculosus Cuvier, 1816

[Jpn name: Moyoumongaradoshi] Fig. 3L

Hata *et al.*⁸⁾: 23, fig. 1 (record of one specimen, KAUM-I. 54644, from the Uji Islands).

Material examined. KAUM-I. 54644, 1244.0 mm TL.

Remarks. The first author observed several large individuals of this species at depths of 5–20 m off Uji Fishing Port, suggesting that the species is relatively abundant around

the islands.

CONGRIDAE

Conger myriaster (Brevoort, 1856)

[Jpn name: Maanago] Fig. 3M

Material examined. KAUM-I. 46895, 396.9 mm TL.

ARGENTINIDAE

Glossanodon semifasciatus (Kishinouye, 1904)

[Jpn name: Nigisu] Fig. 3N

Material examined. KAUM-I. 46893, 180.5 mm SL.

GONOSTOMATIDAE

Diplophos taenia Günther, 1873

[Jpn name: Netaiyumehadaka]

Material examined. KAUM-I. 15464, 147.4 mm SL.

STERNOPTYCHIDAE

Polyipnus stereope Jordan and Starks, 1904

[Jpn name: Katahoueneso] Fig. 3O

Material examined. KAUM-I. 46842, 41.0 mm SL;

KAUM-I. 46843, 42.2 mm SL; KAUM-I. 46844, 44.4 mm

SL; KAUM-I. 46874, 36.0 mm SL; KAUM-I. 46875, 45.2 mm SL.

PHOSICHTHYIDAE

Polymetme elongatus (Matsubara, 1938)

[Jpn name: Ryukyuhadaka] Fig. 3P

Material examined. KAUM-I. 46852, 126.9 mm SL.

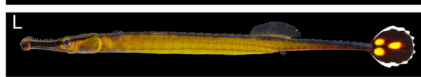
CHLOROPHTHALMIDAE

Chlorophthalmus albatrossis Jordan and Starks, 1904

[Jpn name: Aomeeso]

Material examined. KAUM-I. 15443, 122.9 mm SL.

Page 15: Fig. 4. Fishes of the Uji Islands – 2. A, *Diaphus watasei*, KAUM-I. 46847, 116.8 mm SL; B, *Coelorinchus kamoharai*, KAUM-I. 46332, 228.3 mm SL; C, *Ventrifossa garmani*, KAUM-I. 46225, 281.1 mm SL; D, *Lophius litulon*, KAUM-I. 46902, 39.1 mm SL; E, *Chaunax abei*, KAUM-I. 46845, 87.1 mm SL; F, *Hoplostethus japonicus*, KAUM-I. 46833, 96.5 mm SL; G, *Beryx mollis*, KAUM-I. 46850, 115.4 mm SL; H, *Myripristis berndti*, KAUM-I. 71607, 94.7 mm SL; I, *Myripristis kochiensis*, KAUM-I. 71648, 81.5 mm SL; J, *Sargocentron spiniferum*, KPM-NI 35449, 314.0 mm SL; K, *Cyttopsis rosea*, KAUM-I. 46851, 97.4 mm SL; L, *Doryrhamphus (Doryrhamphus) japonicus*, KAUM-I. 71628, 60.6 mm SL; M, *Halicampus brocki*, KAUM-I. 71618, 75.6 mm SL; N, *Fistularia commersonii*, KPM-NI 35273, 853.5 mm SL; O, *Dendrochirus zebra*, KAUM-I. 71878, 123.7 mm SL; P, *Parascorpaena mossambica*, KAUM-I. 71599, 54.8 mm SL; Q, *Pterois volitans*, KAUM-I. 71880, 153.1 mm SL; R, *Scorpaenodes evides*, KAUM-I. 71616, 39.3 mm SL; S, *Scorpaenopsis cirrosa*, KAUM-I. 71879, 170.1 mm SL; T, *Setarches longimanus*, KAUM-I. 46834, 119.7 mm SL; U, *Pterygotrigla hemisticta*, KAUM-I. 46846, 225.0 mm SL; V, *Ebinania brephocephala*, KAUM-I. 46838, 84.0 mm SL; W, *Neoscombrops pacificus*, KAUM-I. 65983, 231.0 mm SL; X, *Synagrops japonicus*, KAUM-I. 46824, 196.5 mm SL.



MYCTOPHIDAE

Diaphus garmani Gilbert, 1906

[Jpn name: Hirohadaka] Fig. 3Q

Material examined. KAUM-I. 46854, 47.9 mm SL; KAUM-I. 46855, 51.5 mm SL; KAUM-I. 46897, 55.6 mm SL.

Diaphus suborbitalis Weber, 1913

[Jpn name: Senhadaka] Fig. 3R

Material examined. KAUM-I. 46839, 67.4 mm SL; KAUM-I. 46840, 58.0 mm SL; KAUM-I. 46841, 53.0 mm SL; KAUM-I. 46872, 61.4 mm SL; KAUM-I. 46873, 65.6 mm SL.

Remarks. In Japan, this species has been recorded only between Fukushima Prefecture (Pacific coast) and the Amami Islands¹⁵⁾. The present specimens represent the first records of the species in the northern East China Sea.

Diaphus watasei Jordan and Starks, 1904

[Jpn name: Hadakaiwashi] Fig. 4A

Material examined. KAUM-I. 46847, 116.8 mm SL; KAUM-I. 46848, 117.9 mm SL; KAUM-I. 46849, 114.1 mm SL.

MACROURIDAE

Coelorinchus jordani Smith and Pope, 1906

[Jpn name: Kyushuhige]

Material examined. KAUM-I. 46345, 129.2 mm SL; KAUM-I. 46346, 98.8 mm SL; KAUM-I. 46347, 124.3 mm SL.

Remarks. The correct spelling of the genus is *Coelorinchus*¹³⁾, although the generic name has been incorrectly given as *Caelorinchus* or *Coelorhynchus* in most literature.

Coelorinchus kamoharai Matsubara, 1943

[Jpn name: Ichimonjihige] Fig. 4B

Material examined. KAUM-I. 46331, 250.0 mm SL; KAUM-I. 46332, 228.3 mm SL; KAUM-I. 46333, 228.1 mm SL; KAUM-I. 46334, 206.6 mm SL; KAUM-I. 46335, 175.2 mm SL; KAUM-I. 46336, 162.3 mm SL; KAUM-I. 46337, 155.3 mm SL; KAUM-I. 46338, 171.7 mm SL; KAUM-I. 46339, 180.0 mm SL; KAUM-I. 46340, 183.3 mm SL; KAUM-I. 46341, 162.3 mm SL; KAUM-I. 46342, 175.0 mm SL; KAUM-I. 46343, 115.8 mm SL; KAUM-I. 46344, 144.8 mm SL; KAUM-I. 46348, 164.8 mm SL;

KAUM-I. 46832, 249.3 mm SL; KAUM-I. 47079, 168.8 mm SL; KAUM-I. 47080, 142.4 mm SL.

Coelorinchus longissimus Matsubara, 1943

[Jpn name: Tongarihige]

Material examined. KAUM-I. 47081, 220.2 mm SL; KAUM-I. 47082, 247.4 mm SL; KAUM-I. 47083, 197.3 mm SL; KAUM-I. 47084, 188.1 mm SL.

Hymenocephalus longiceps Smith and Radcliffe, 1912

[Jpn name: Wanidara]

Material examined. KAUM-I. 47107, 228.7 mm SL.

Ventrifossa garmani (Jordan and Gilbert, 1904)

[Jpn name: Sagamisokodara] Fig. 4C

Material examined. KAUM-I. 46225, 281.1 mm SL; KAUM-I. 46226, 214.8 mm SL; KAUM-I. 46227, 182.7 mm SL; KAUM-I. 46228, 191.6 mm SL; KAUM-I. 46349, 189.1 mm SL; KAUM-I. 46825, 231.0 mm SL; KAUM-I. 46826, 200.4 mm SL; KAUM-I. 46900, 179.0 mm SL; KAUM-I. 46901, 182.1 mm SL; KAUM-I. 47077, 181.1 mm SL; KAUM-I. 47078, 209.2 mm SL; KAUM-I. 47098, 166.9 mm SL; KAUM-I. 47099, 203.6 mm SL; KAUM-I. 47100, 211.7 mm SL; KAUM-I. 47101, 246.3 mm SL; KAUM-I. 47102, 223.8 mm SL; KAUM-I. 47103, 202.8 mm SL; KAUM-I. 47104, 202.6 mm SL; KAUM-I. 47105, 201.0 mm SL; KAUM-I. 47106, 173.6 mm SL.

OPHIDIIDAE

Neobythites stigmatosus Machida, 1984

[Jpn name: Shimaitachiuo]

Material examined. KAUM-I. 46251, 174.5 mm SL; KAUM-I. 46256, 155.9 mm SL; KAUM-I. 46265, 151.1 mm SL; KAUM-I. 46317, 164.5 mm SL.

LOPHIIDAE

Lophius litulon (Jordan, 1902)

[Jpn name: Kiankou] Fig. 4D

Material examined. KAUM-I. 46902, 39.1 mm SL.

CHAUNACIDAE

Chaunax abei Le Danois, 1978

[Jpn name: Midorifusaankou] Fig. 4E

Material examined. KAUM-I. 46845, 87.1 mm SL;

KAUM-I. 46853, 68.6 mm SL.

OGCOEPHALIDAE

Malthopsis annulifera Tanaka, 1908

[Jpn name: Wanukefuuryuuuo]

Material examined. KAUM-I. 15576, 74.5 mm SL.

EXOCOETIDAE

Cheilopogon furcatus (Mitchill, 1815)

[Jpn name: Oomenatsutobi]

Material examined. KAUM-I. 52074, 137.8 mm SL.

Remarks. This species has frequently been treated as *Cypselurus antoncichi* Woods and Schultz, 1953; the latter is a junior synonym of *Cheilopogon furcatus*¹⁶⁾.

TRACHICHTHYIDAE

Hoplostethus japonicus Hilgendorf, 1879

[Jpn name: Hiuchidai] Fig. 4F

Material examined. KAUM-I. 46833, 96.5 mm SL.

BERYCIDAE

Beryx mollis Abe, 1959

[Jpn name: Fuusenkimme] Fig. 4G

Material examined. KAUM-I. 46850, 115.4 mm SL;
KAUM-I. 46894, 124.8 mm SL.

HOLOCENTRIDAE

Myripristis berndti Jordan and Evermann, 1903

[Jpn name: Akamatsukasa] Fig. 4H

Material examined. KAUM-I. 71607, 94.7 mm SL.

Remarks. The previous specimen-based northernmost record of the species was Yaku-shima island in the Osumi Islands^{3, 17)}. The present specimen represents the northernmost record of the species. Possibly uncommon around the Uji Islands.

Myripristis kochiensis Randall and Yamakawa, 1996

[Jpn name: Namimatsukasa] Fig. 4I

Material examined. KAUM-I. 71596, 87.5 mm SL;
KAUM-I. 71648, 81.5 mm SL.

Remarks. This Japanese endemic has been recorded from Hachijo-jima island in the Izu Islands and the Pacific coast from the Izu Peninsula, Shizuoka Prefecture, to Osumi Peninsula, Kagoshima Prefecture¹⁷⁾. The present specimens represent the southernmost and westernmost records of the species.

Sargocentron spiniferum (Forsskål, 1775)

[Jpn name: Togariebisu] Fig. 4J

Material examined. KPM-NI 35449, 314.0 mm SL.

PARAZENIDAE

Cyttopsis rosea (Lowe, 1843)

[Jpn name: Kagomatoudai] Fig. 4K

Material examined. KAUM-I. 46851, 97.4 mm SL.

ZENIONTIDAE

Zenion japonicum Kamohara, 1934

[Jpn name: Sokomatoudai]

Material examined. KAUM-I. 15422, 59.9 mm SL.

Remarks. The family name, Zeniontidae, follows Eschmeyer¹³⁾.

SYNGNATHIDAE

Doryrhamphus (Doryrhamphus) japonicus Araga and Yoshino, 1975

[Jpn name: Nokogiriyouji] Fig. 4L

Material examined. KAUM-I. 71564, 46.9 mm SL;
KAUM-I. 71578, 59.6 mm SL; KAUM-I. 71579, 51.9 mm
SL; KAUM-I. 71580, 67.8 mm SL; KAUM-I. 71628, 60.6
mm SL; KAUM-I. 71638, 56.0 mm SL; KAUM-I. 71711,
51.8 mm SL; KAUM-I. 71731, 56.3 mm SL.

Remarks. In Japanese waters, this species has previously been known from the Sagami Bay to Yaku-shima island off the Pacific coast, Yamaguchi and Nagasaki prefectures in the Sea of Japan, the Izu and Ogasawara islands, and rarely in the Ryukyu Islands¹⁸⁾. The present specimens represent the first records of the species in the East China Sea off southern Kyushu. Common around the entrance of the Uji Fishing Port.

Halicampus brocki (Herald, 1953)

[Jpn name: Nokogiriumiyakko] Fig. 4M

Material examined. KAUM-I. 71618, 75.6 mm SL.

Remarks. In Japanese waters, this species has been recorded from the Ogasawara Islands and the southern Ryukyu Islands (south of the Amami Islands)¹⁸⁾. The present specimen, collected at a depth of 10–16 m just outside the Uji Fishing Port, represents the northernmost record of the species.

FISTULARIIDAE

Fistularia commersonii Rüppell, 1838

[Jpn name: Aoyagara] Fig. 4N

Material examined. KPM-NI 35273, 853.5 mm SL; KPM-NI 35274, 821.5 mm SL.

MACRORAMPHOSIDAE

Macroramphosus sagifue Jordan and Starks, 1902

[Jpn name: Sagifue]

Material examined. KAUM-I. 15610, 143.4 mm SL.

Remarks. Some authors have treated *M. sagifue* as a junior synonym of *M. scolopax* (Linnaeus, 1758)¹³⁾.

SCORPAENIDAE

Dendrochirus zebra (Cuvier, 1829)

[Jpn name: Kirimmino] Fig. 4O

Material examined. KAUM-I. 71878, 123.7 mm SL; KAUM-I. 71881, 127.0 mm SL.

Parascorpaena mossambica (Peters, 1855)

[Jpn name: Nettarefusakasago] Fig. 4P

Material examined. KAUM-I. 71599, 54.8 mm SL.

Pterois volitans (Linnaeus, 1758)

[Jpn name: Hanaminokasago] Fig. 4Q

Material examined. KAUM-I. 71880, 153.1 mm SL.

Scorpaenodes evides (Jordan and Thompson, 1914)

[Jpn name: Isokasago] Fig. 4R

Material examined. KAUM-I. 71586, 51.6 mm SL; KAUM-I. 71595, 26.5 mm SL; KAUM-I. 71606, 63.0 mm SL; KAUM-I. 71616, 39.3 mm SL; KAUM-I. 71652, 37.7 mm SL; KAUM-I. 71653, 70.8 mm SL; KAUM-I. 71702, 51.8 mm SL; KAUM-I. 71714, 56.3 mm SL; KAUM-I. 71719, 52.2 mm SL; KAUM-I. 71729, 47.9 mm SL; KAUM-I. 71730, 47.6 mm SL; KAUM-I. 71732, 59.6 mm SL.

Scorpaenopsis cirrosa (Thunberg, 1793)

[Jpn name: Onikasago] Fig. 4S

Material examined. KAUM-I. 71879, 170.1 mm SL.

Remarks. Although Nakabo and Kai¹⁹⁾ included Yaku-shima island, the Tokara Islands, Okinawa island, and Ie-jima island in the distribution of *S. cirrosa*, this species does not occur in these islands, and the southern limits

of its distribution in Japanese waters are probably the Uji Islands, Mishima (Take-shima and Iou-jima islands), and Tanegashima island (Motomura, unpub. data).

SETARCHIDAE

Setarches longimanus (Alcock, 1894)

[Jpn name: Akakasago] Fig. 4T

Material examined. KAUM-I. 15437, 51.5 mm SL; KAUM-I. 46252, 114.0 mm SL; KAUM-I. 46253, 140.0 mm SL; KAUM-I. 46254, 121.0 mm SL; KAUM-I. 46266, 103.6 mm SL; KAUM-I. 46267, 90.9 mm SL; KAUM-I. 46268, 122.6 mm SL; KAUM-I. 46269, 81.5 mm SL; KAUM-I. 46270, 88.2 mm SL; KAUM-I. 46834, 119.7 mm SL; KAUM-I. 46835, 110.4 mm SL; KAUM-I. 46876, 147.4 mm SL; KAUM-I. 46877, 90.0 mm SL; KAUM-I. 46878, 124.6 mm SL; KAUM-I. 46879, 93.2 mm SL; KAUM-I. 46880, 119.7 mm SL; KAUM-I. 46881, 105.5 mm SL; KAUM-I. 46882, 107.2 mm SL; KAUM-I. 46883, 109.2 mm SL; KAUM-I. 46884, 134.3 mm SL; KAUM-I. 46885, 108.4 mm SL; KAUM-I. 46886, 127.7 mm SL; KAUM-I. 46887, 119.9 mm SL; KAUM-I. 46888, 92.2 mm SL; KAUM-I. 46889, 110.5 mm SL; KAUM-I. 46890, 81.1 mm SL; KAUM-I. 46891, 84.3 mm SL; KAUM-I. 47006, 96.8 mm SL; KAUM-I. 47007, 129.7 mm SL; KAUM-I. 47008, 110.6 mm SL; KAUM-I. 47009, 121.4 mm SL; KAUM-I. 47010, 109.3 mm SL; KAUM-I. 47011, 92.7 mm SL; KAUM-I. 47012, 104.7 mm SL; KAUM-I. 47013, 83.4 mm SL.

SEBASTIDAE

Helicolenus hilgendorfi (Döderlein, 1884)

[Jpn name: Yumekasago]

Material examined. KAUM-I. 46255, 84.5 mm SL.

TRIGLIDAE

Pterygotrigla hemisticta (Temminck and Schlegel, 1843)

[Jpn name: Sokohoubou] Fig. 4U

Material examined. KAUM-I. 46846, 225.0 mm SL.

PERISTEDIIDAE

Peristedion orientale Temminck and Schlegel, 1843

[Jpn name: Kihoubou]

Material examined. KAUM-I. 15581, 84.7+ mm SL; KAUM-I. 15580, 127.4 mm SL; KAUM-I. 15593, 114.7 mm SL.

HOPLICHTHYIDAE

Hoplichthys gilberti Jordan and Richardson, 1908

[Jpn name: Sokoharigochi]

Material examined. KAUM-I. 15642, 92.6 mm SL.

Remarks. The present specimen represents the first record of the species from off the western (East China Sea) coast of southern Kyushu.

EREUNIIDAE

Marukawichthys ambulator Sakamoto, 1931

[Jpn name: Marukawakajika]

Material examined. KAUM-I. 15460, 125.8 mm SL.

Remarks. This species has previously been recorded from Aomori Prefecture to Wakasa Bay on the Sea of Japan coast and to Tosa Bay on the Pacific coast²⁰. The present specimen represents the southernmost record of the species.

PSYCHROLUTIDAE

Ebinania brephocephala (Jordan and Starks, 1903)

[Jpn name: Bouzukahajika] Fig. 4V

Material examined. KAUM-I. 46250, 72.0 mm SL; KAUM-I. 46257, 84.1 mm SL; KAUM-I. 46258, 96.8 mm SL; KAUM-I. 46259, 94.9 mm SL; KAUM-I. 46260, 102.5 mm SL; KAUM-I. 46261, 115.8 mm SL; KAUM-I. 46262, 90.7 mm SL; KAUM-I. 46263, 94.6 mm SL; KAUM-I. 46264, 100.2 mm SL; KAUM-I. 46306, 90.0 mm SL; KAUM-I. 46307, 83.0 mm SL; KAUM-I. 46837, 78.4 mm SL; KAUM-I. 46838, 84.0 mm SL; KAUM-I. 46856, 64.1 mm SL; KAUM-I. 46857, 61.6 mm SL; KAUM-I. 46858, 82.6 mm SL; KAUM-I. 46859, 75.7 mm SL.

ACROPOMATIDAE

Malakichthys wakiyae Jordan and Hubbs, 1925

[Jpn name: Wakiyahata]

Material examined. KAUM-I. 15442, 126.3 mm SL.

Neoscombrops pacificus Mochizuki, 1979

[Jpn name: Bakemutsu] Fig. 4W

Material examined. KAUM-I. 65983, 231.0 mm SL.

Remarks. In Japanese waters, this species is known only from the southern Izu Islands and the Okinawa Islands²¹. The present specimen represents the northernmost record for the species.

Synagrops japonicus (Döderlein, 1883)

[Jpn name: Sumikiuio] Fig. 4X

Material examined. KAUM-I. 46238, 158.3 mm SL; KAUM-I. 46239, 121.8 mm SL; KAUM-I. 46240, 156.2 mm SL; KAUM-I. 46241, 125.1 mm SL; KAUM-I. 46242, 160.1 mm SL; KAUM-I. 46243, 142.2 mm SL; KAUM-I. 46244, 129.2 mm SL; KAUM-I. 46308, 137.5 mm SL; KAUM-I. 46309, 133.0 mm SL; KAUM-I. 46310, 129.0 mm SL; KAUM-I. 46311, 170.5 mm SL; KAUM-I. 46312, 152.8 mm SL; KAUM-I. 46313, 157.5 mm SL; KAUM-I. 46314, 140.0 mm SL; KAUM-I. 46315, 146.8 mm SL; KAUM-I. 46316, 141.5 mm SL; KAUM-I. 46824, 196.5 mm SL.

SERRANIDAE

Aethaloperca rogae (Forsskål, 1775)

[Jpn name: Kurohata] Fig. 5A

Material examined. KPM-NI 35430, 280.5 mm SL; KPM-NI 35431, 266.5 mm SL.

Remarks. The present specimen represents the first record of the species from Kagoshima Prefecture.

Cephalopholis argus Bloch and Schneider, 1801

[Jpn name: Aonomehata] Fig. 5B

Material examined. KPM-NI 35429, 265.0 mm SL.

Cephalopholis miniata (Forsskål, 1775)

[Jpn name: Yukatahata] Fig. 5C

Material examined. KPM-NI 35168, 199.0 mm SL; KPM-NI 35433, 281.0 mm SL.

Cephalopholis urodeta (Forster, 1801)

[Jpn name: Nijihata] Fig. 5D

Material examined. KPM-NI 35426, 193.5 mm SL.

Epinephelus bruneus Bloch, 1793

[Jpn name: Kue] Fig. 5E

Material examined. KPM-NI 35270, 769.0 mm SL.

Epinephelus fasciatus (Forsskål, 1775)

[Jpn name: Akahata] Fig. 5F

Material examined. KPM-NI 35148, 292.0 mm SL; KPM-NI 35149, 296.0 mm SL; KPM-NI 35150, 272.0 mm SL; KPM-NI 35151, 261.0 mm SL; KPM-NI 35152, 276.0 mm SL; KPM-NI 35153, 254.5 mm SL; KPM-NI 35154, 253.5 mm SL.

mm SL; KPM-NI 35155, 230.5 mm SL; KPM-NI 35156, 246.5 mm SL; KPM-NI 35157, 216.5 mm SL; KPM-NI 35158, 249.0 mm SL; KPM-NI 35159, 257.0 mm SL; KPM-NI 35160, 251.0 mm SL; KPM-NI 35161, 273.5 mm SL; KPM-NI 35162, 260.5 mm SL; KPM-NI 35163, 249.5 mm SL; KPM-NI 35164, 286.5 mm SL; KPM-NI 35165, 274.5 mm SL; KPM-NI 35166, 250.5 mm SL; KPM-NI 35167, 309.0 mm SL.

Plectranthias kamii Randall, 1980

[Jpn name: Izuhanadai] Fig. 5G

Material examined. KAUM-I. 33981, 219.5 mm SL; KAUM-I. 46926, 199.4 mm SL.

Plectropomus laevis (Lacepède, 1801)

[Jpn name: Kokuhan-ara] Fig. 5H

Material examined. KPM-NI 35271, 541.5 mm SL.

Plectropomus leopardus (Lacepède, 1802)

[Jpn name: Sujiara] Fig. 5I

Material examined. KPM-NI 35427, 446.0 mm SL; KPM-NI 35428, 271.5 mm SL.

Pseudanthias hypselosoma Bleeker, 1878

[Jpn name: Keramahanadai] Fig. 5J

Material examined. KAUM-I. 50963, 81.2 mm SL.

Pseudanthias squamipinnis (Peters, 1855)

[Jpn name: Kingyohanadai] Fig. 5K

Material examined. KAUM-I. 71605, 69.4 mm SL; KAUM-I. 71624, 64.3 mm SL; KAUM-I. 71912, 16.3 mm SL.

Variola albimarginata Baissac, 1953

[Jpn name: Ojirobarahata] Fig. 5L

Material examined. KPM-NI 35432, 256.5 mm SL.

Remarks. This species was previously recorded from Kagoshima Prefecture on the basis only of photographs; the present specimen represents the first record of the species from Kagoshima Prefecture on the basis of a voucher specimen.

PSEUDOCROMIDAE

Pseudochromis marshallensis Schultz, 1953

[Jpn name: Hoshinisesuzume] Fig. 5M

Material examined. KAUM-I. 71554, 49.4 mm SL; KAUM-I. 71571, 52.5 mm SL; KAUM-I. 71574, 49.2 mm SL; KAUM-I. 71594, 54.2 mm SL; KAUM-I. 71615, 61.1 mm SL; KAUM-I. 71649, 52.8 mm SL; KAUM-I. 71670, 36.7 mm SL; KAUM-I. 71683, 44.7 mm SL; KAUM-I. 71684, 37.3 mm SL.

Remarks. This species has been recorded from the Ryukyu, Izu, and Ogasawara islands²²⁾. The present specimens represent the northernmost records of the species in Kagoshima waters.

PLESIOPIIDAE

Acanthoplesiops psilogaster Hardy, 1985

[Jpn name: Fuchidoritanabatauo] Fig. 5N

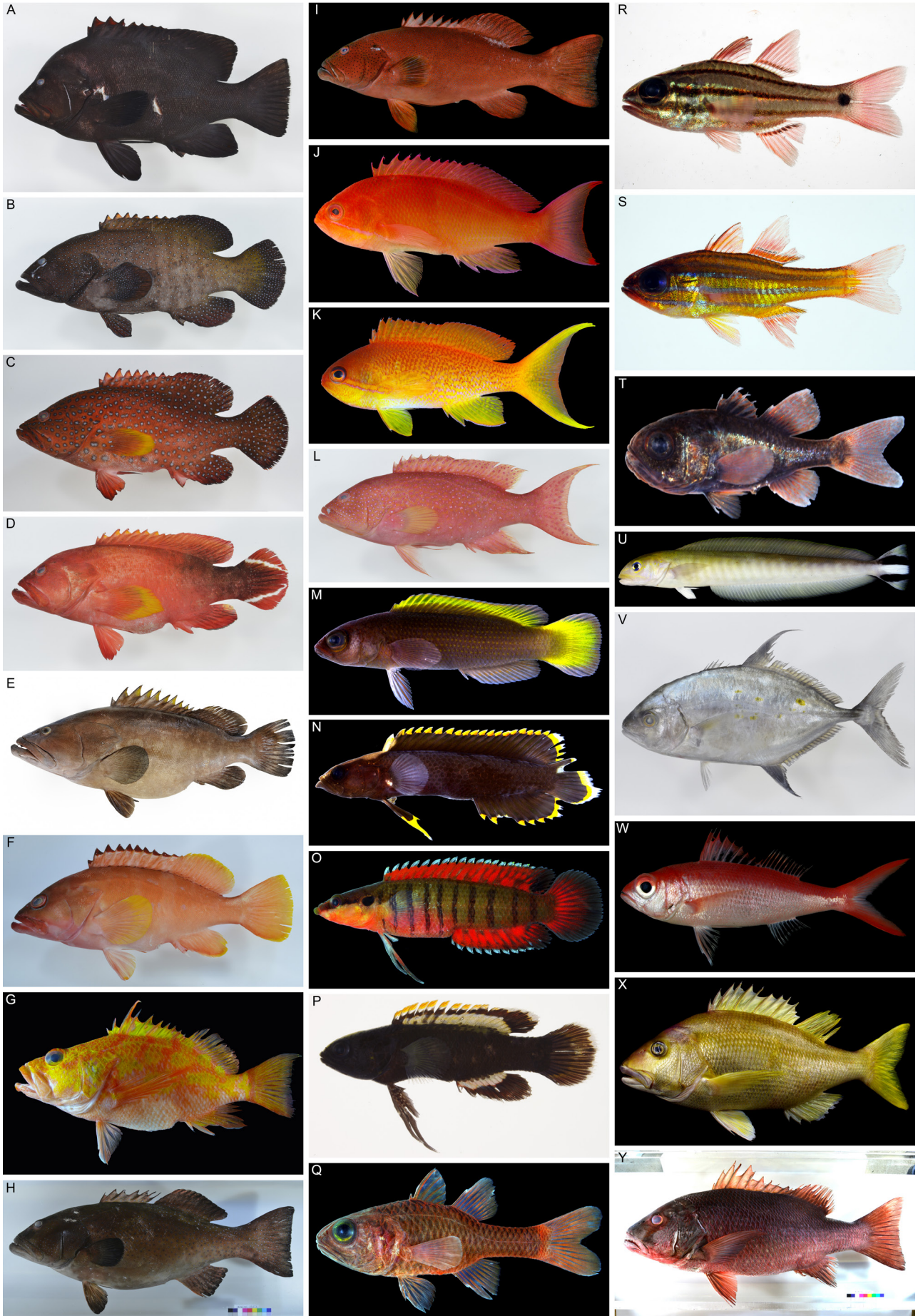
Material examined. KAUM-I. 71551, 22.7 mm SL; KAUM-I. 71557, 24.0 mm SL; KAUM-I. 71559, 32.7 mm SL.

Remarks. Recorded only from the Ogasawara Islands, the Izu Islands, Wakayama and Ehime prefectures, and the Ryukyu Islands^{3, 23)}.

Belonepterygion fasciolatum (Ogilby, 1889)

[Jpn name: Togetanabatauo] Fig. 5O

Page 21: Fig. 5. Fishes of the Uji Islands – 3. A, *Aethaloperca rogaea*, KPM-NI 35430, 280.5 mm SL; B, *Cephalopholis argus*, KPM-NI 35429, 265.0 mm SL; C, *Cephalopholis miniata*, KPM-NI 35168, 199.0 mm SL; D, *Cephalopholis urodeta*, KPM-NI 35426, 193.5 mm SL; E, *Epinephelus bruneus*, KPM-NI 35270, 769.0 mm SL; F, *Epinephelus fasciatus*, KPM-NI 35165, 274.5 mm SL; G, *Plectranthias kamii*, KAUM-I. 33981, 219.5 mm SL; H, *Plectropomus laevis*, KPM-NI 35271, 541.5 mm SL; I, *Plectropomus leopardus*, KPM-NI 35427, 446.0 mm SL; J, *Pseudanthias hypselosoma*, KAUM-I. 50963, 81.2 mm SL; K, *Pseudanthias squamipinnis*, KAUM-I. 71624, 64.3 mm SL; L, *Variola albimarginata*, KPM-NI 35432, 256.5 mm SL; M, *Pseudochromis marshallensis*, KAUM-I. 71670, 36.7 mm SL; N, *Acanthoplesiops psilogaster*, KAUM-I. 71557, 24.0 mm SL; O, *Belonepterygion fasciolatum*, KAUM-I. 71556, 37.0 mm SL; P, *Plesiops coeruleolineatus*, KAUM-I. 71558, 32.4 mm SL; Q, *Apogon kominatoensis*, KAUM-I. 71583, 34.7 mm SL; R, *Ostorhinchus doederleini*, KAUM-I. 71587, 58.1 mm SL; S, *Ostorhinchus properuptus*, KAUM-I. 71553, 45.5 mm SL; T, *Siphamia majimai*, KAUM-I. 71590, 20.5 mm SL; U, *Malacanthus brevisrostris*, KAUM-I. 71851, 211.1 mm SL; V, *Carangoides orthogrammus*, KPM-NI 35447, 212.0 mm SL; W, *Etelis coruscans*, KAUM-I. 11111, 189.4 mm SL; X, *Lipocheilus carnolabrum*, KAUM-I. 61658, 543.5 mm SL; Y, *Lutjanus argentimaculatus*, KPM-NI 35272, 615.5 mm SL.



Material examined. KAUM-I. 71556, 37.0 mm SL.

Plesiops coeruleolineatus Rüppell, 1835

[Jpn name: Tanabatauo] Fig. 5P

Material examined. KAUM-I. 71558, 32.4 mm SL.

APOGONIDAE

Apogon kominatoensis Ebina, 1935

[Jpn name: Kominatotenjikudai] Fig. 5Q

Material examined. KAUM-I. 71581, 41.2 mm SL; KAUM-I. 71583, 34.7 mm SL; KAUM-I. 71600, 41.5 mm SL; KAUM-I. 71603, 37.8 mm SL; KAUM-I. 71617, 50.8 mm SL; KAUM-I. 71658, 45.5 mm SL; KAUM-I. 71665, 44.1 mm SL; KAUM-I. 71667, 43.4 mm SL; KAUM-I. 71668, 44.7 mm SL; KAUM-I. 71696, 43.6 mm SL; KAUM-I. 71701, 39.5 mm SL; KAUM-I. 71718, 46.1 mm SL; KAUM-I. 71724, 40.4 mm SL.

Remarks. Hayashi²⁴⁾ mistakenly used the name *Apogon coccineus* for this species.

Ostorhinchus doederleini (Jordan and Snyder, 1901)

[Jpn name: Osujiishimochi] Fig. 5R

Material examined. KAUM-I. 71587, 58.1 mm SL; KAUM-I. 71622, 63.8 mm SL; KAUM-I. 71644, 64.2 mm SL; KAUM-I. 71651, 72.0 mm SL.

Ostorhinchus properuptus (Whitley, 1964)

[Jpn name: Kinsen-ishimochi] Fig. 5S

Material examined. KAUM-I. 71553, 45.5 mm SL; KAUM-I. 71575, 45.4 mm SL; KAUM-I. 71576, 49.5 mm SL; KAUM-I. 71582, 43.2 mm SL; KAUM-I. 71585, 56.4 mm SL; KAUM-I. 71602, 55.7 mm SL; KAUM-I. 71623, 55.5 mm SL; KAUM-I. 71645, 48.3 mm SL; KAUM-I. 71650, 54.7 mm SL; KAUM-I. 71660, 57.1 mm SL; KAUM-I. 71666, 57.3 mm SL; KAUM-I. 71671, 48.7 mm

SL; KAUM-I. 71685, 57.2 mm SL; KAUM-I. 71691, 39.4 mm SL; KAUM-I. 71692, 39.3 mm SL; KAUM-I. 71693, 46.3 mm SL; KAUM-I. 71694, 51.6 mm SL; KAUM-I. 71697, 47.1 mm SL; KAUM-I. 71698, 47.0 mm SL; KAUM-I. 71703, 49.8 mm SL; KAUM-I. 71706, 49.2 mm SL; KAUM-I. 71717, 49.3 mm SL; KAUM-I. 71738, 40.8 mm SL; KAUM-I. 71889, 58.3 mm SL; KAUM-I. 71890, 46.9 mm SL; KAUM-I. 71900, 38.3 mm SL.

Remarks. A closely related species, *O. holotaenia* (Regan, 1905), was not collected from the Uji Islands.

Siphamia majimai Matsubara and Iwai, 1958

[Jpn name: Majimakuroishimochi] Fig. 5T

Material examined. KAUM-I. 71590, 20.5 mm SL.

MALACANTHIDAE

Malacanthus brevirostris Guichenot, 1848

[Jpn name: Yaseamadai] Fig. 5U

Material examined. KAUM-I. 71851, 211.1 mm SL.

CARANGIDAE

Carangoides orthogrammus (Jordan and Gilbert, 1882)

[Jpn name: Nan-youkaiwari] Fig. 5V

Material examined. KPM-NI 35447, 212.0 mm SL.

Caranx sexfasciatus Quoy and Gaimard, 1825

[Jpn name: Gingameaji]

Material examined. KPM-NI 35448, 117.8 mm SL.

LUTJANIDAE

Etelis coruscans Valenciennes, 1862

[Jpn name: Hamadai] Fig. 5W

Material examined. KAUM-I. 11111, 189.4 mm SL.

Page 23: Fig. 6. Fishes of the Uji Islands – 4. A, *Lutjanus monostigma*, KPM-NI 35452, 352.0 mm SL; B, *Diagramma picta*, KPM-NI 35441, 528.0 mm SL; C, *Plectorhinchus picus*, KPM-NI 35442, 418.0 mm SL; D, *Pentapodus nagasakiensis*, KAUM-I. 71876, 110.9 mm SL; E, *Gymnocranius griseus*, KAUM-I. 71867, 285.9 mm SL; F, *Parupeneus ciliatus*, KPM-NI 35440, 281.0 mm SL; G, *Parupeneus spilurus*, KPM-NI 35439, 299.5 mm SL; H, *Girella punctata*, KPM-NI 35446, 298.0 mm SL; I, *Chaetodon auripes*, KAUM-I. 71839, 125.6 mm SL; J, *Chaetodon wiebeli*, KPM-NI 35451, 174.5 mm SL; K, *Apolemichthys trimaculatus*, KPM-NI 35450, 177.0 mm SL; L, *Oplegnathus fasciatus*, KPM-NI 35436, 311.5 mm SL; M, *Oplegnathus punctatus*, KPM-NI 35434, 511.0 mm SL; N, *Oplegnathus fasciatus* x *punctatus*, KPM-NI 35435, 311.0 mm SL; O, *Goniistius zonatus*, KAUM-I. 71844, 323.6 mm SL; P, *Chromis vanderbilti*, KAUM-I. 71588, 48.4 mm SL; Q, *Pomacentrus coelestis*, KAUM-I. 71601, 41.0 mm SL; R, *Pomacentrus nagasakiensis*, KAUM-I. 71625, 40.1 mm SL; S, *Stegastes altus*, KAUM-I. 71838, 123.0 mm SL; T, *Anampses caeruleopunctatus*, KAUM-I. 29387, 345.1 mm SL; U, *Bodianus oxycephalus*, KAUM-I. 11112, 281.0 mm SL.



Lipocheilus carnolabrum (Chan, 1970)

[Jpn name: Kibirefuedai] Fig. 5X

Jeong *et al.*, 2015: 101, fig. 2 (record of one specimen, KAUM-I. 61658, from the Uji Islands).

Material examined. KAUM-I. 61658, 543.5 mm SL.

Lutjanus argentimaculatus (Forsskål, 1775)

[Jpn name: Gomafuedai] Fig. 5Y

Material examined. KPM-NI 35272, 615.5 mm SL.

Lutjanus monostigma (Cuvier, 1828)

[Jpn name: Ittenfuedai] Fig. 6A

Material examined. KPM-NI 35452, 352.0 mm SL.

HAEMULIDAE

Diagramma picta (Thunberg, 1792)

[Jpn name: Korodai] Fig. 6B

Material examined. KPM-NI 35441, 528.0 mm SL.

Plectorhinchus picus (Cuvier, 1828)

[Jpn name: Ajiakosyoudai] Fig. 6C

Material examined. KPM-NI 35442, 418.0 mm SL.

NEMIPTERIDAE

Pentapodus nagasakiensis (Tanaka, 1915)

[Jpn name: Itotamagashira] Fig. 6D

Material examined. KAUM-I. 71875, 112.2 mm SL;
KAUM-I. 71876, 110.9 mm SL.

LETHRINIDAE

Gymnocranius griseus (Temminck and Schlegel, 1843)

[Jpn name: Meichidai] Fig. 6E

Material examined. KAUM-I. 71866, 291.7 mm SL;

KAUM-I. 71867, 285.9 mm SL.

MULLIDAE

Parupeneus ciliatus (Lacepède, 1802)

[Jpn name: Houraihimeji] Fig. 6F

Material examined. KAUM-I. 71860, 235.5 mm SL; KPM-NI 35440, 281.0 mm SL.

Parupeneus spilurus (Bleeker, 1854)

[Jpn name: Okinahimeji] Fig. 6G

Material examined. KPM-NI 35438, 300.5 mm SL; KPM-NI 35439, 299.5 mm SL.

GIRELLIDAE

Girella punctata Gray, 1835

[Jpn name: Mejina] Fig. 6H

Material examined. KAUM-I. 15614, 33.6 mm SL; KPM-NI 35446, 298.0 mm SL.

CHAETODONTIDAE

Chaetodon auripes Jordan and Snyder, 1901

[Jpn name: Chouchouuo] Fig. 6I

Material examined. KAUM-I. 71839, 125.6 mm SL.

Chaetodon wiebeli Kaup, 1863

[Jpn name: Tsukichouchouuo] Fig. 6J

Material examined. KPM-NI 35451, 174.5 mm SL.

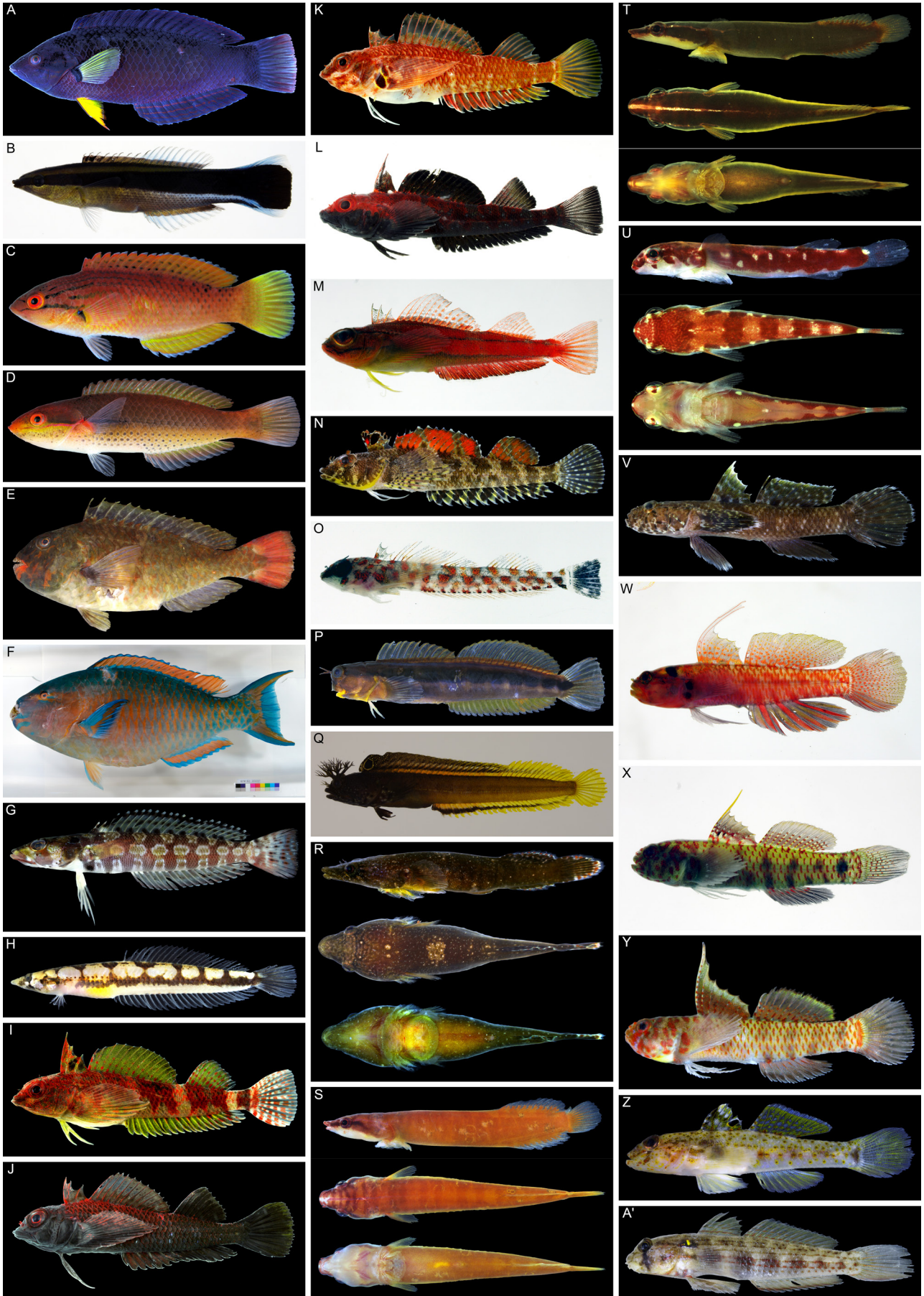
POMACANTHIDAE

Apolemichthys trimaculatus (Cuvier, 1831)

[Jpn name: Shiten-yakko] Fig. 6K

Material examined. KPM-NI 35450, 177.0 mm SL.

Page 25: Fig. 7. Fishes of the Uji Islands – 5. A, *Halichoeres melanochir*, KAUM-I. 71626, 102.2 mm SL; B, *Labroides dimidiatus*, KAUM-I. 71570, 47.1 mm SL; C, *Pseudolabrus eoethinus*, KAUM-I. 71555, 42.3 mm SL; D, *Stethojulis interrupta terina*, KAUM-I. 71656, 63.3 mm SL; E, *Calotomus japonicus*, KAUM-I. 71846, 207.2 mm SL; F, *Scarus ghobban*, KPM-NI 35437, 516.5 mm SL; G, *Parapercis tetracantha*, KAUM-I. 71550, 69.7 mm SL; H, *Limnichthys fasciatus*, KAUM-I. 71663, 39.3 mm SL; I, *Enneapterygius etheostoma*, KAUM-I. 71699, 37.3 mm SL; J, *Enneapterygius* sp., male, KAUM-I. 71675, 28.9 mm SL; K, *Enneapterygius* sp., female, KAUM-I. 71674, 30.0 mm SL; L, *Helcogramma inclinata*, KAUM-I. 71662, 41.2 mm SL; M, *Helcogramma striata*, KAUM-I. 71688, 31.8 mm SL; N, *Norfolkia brachylepis*, KAUM-I. 71639, 38.0 mm SL; O, *Springerichthys bapturnus*, KAUM-I. 71721, 15.0 mm SL; P, *Ecsenius lineatus*, KAUM-I. 71572, 64.7 mm SL; Q, *Neoclinus okazakii*, KAUM-I. 71573, 64.7 mm SL; R, *Conidens laticephalus*, KAUM-I. 71566, 34.4 mm SL; S, *Lepadichthys* sp. 1, KAUM-I. 71567, 33.3 mm SL; T, *Lepadichthys* sp. 2, KAUM-I. 71568, 23.1 mm SL; U, *Pherallodichthys meshimaensis*, KAUM-I. 71913, 11.2 mm SL; V, *Callogobius shunkan*, KAUM-I. 71612, 35.0 mm SL; W, *Eviota masudai*, KAUM-I. 71610, 29.9 mm SL; X, *Eviota prasina*, KAUM-I. 71611, 24.0 mm SL; Y, *Eviota toshiyuki*, KAUM-I. 71669, 22.7 mm SL; Z, *Fusigobius duospilus*, KAUM-I. 71655, 39.6 mm SL; A', *Gnatholepis cauerensis*, KAUM-I. 71597, 41.6 mm SL.



OPLEGNATHIDAE

Oplegnathus fasciatus (Temminck and Schlegel, 1844)

[Jpn name: Ishidai] Fig. 6L

Material examined. KAUM-I. 71855, 209.6 mm SL; KPM-NI 35436, 311.5 mm SL.

Oplegnathus punctatus (Temminck and Schlegel, 1844)

[Jpn name: Ishigakidai] Fig. 6M

Material examined. KPM-NI 35434, 511.0 mm SL.

Oplegnathus fasciatus* × *punctatus

[Jpn name: N/A] Fig. 6N

Material examined. KPM-NI 35435, 311.0 mm SL.

Remarks. The present specimen is a hybrid individual between *Oplegnathus fasciatus* and *O. punctatus*; these hybrids are occasionally seen in Japanese waters.

CHEILODACTYLIDAE

Goniistius zonatus (Cuvier, 1830)

[Jpn name: Takanohadai] Fig. 6O

Material examined. KAUM-I. 71844, 323.6 mm SL; KPM-NI 35445, 333.0 mm SL.

POMACENTRIDAE

Abudefduf sordidus (Forsskål, 1775)

[Jpn name: Shimasuzumedai]

Material examined. KAUM-I. 15639, 20.1 mm SL.

Chromis vanderbilti (Fowler, 1941)

[Jpn name: Himesuzumedai] Fig. 6P

Material examined. KAUM-I. 71588, 48.4 mm SL.

Pomacentrus coelestis Jordan and Starks, 1901

[Jpn name: Sorasuzumedai] Fig. 6Q

Material examined. KAUM-I. 15444, 52.4 mm SL; KAUM-I. 71560, 44.1 mm SL; KAUM-I. 71561, 37.9 mm SL; KAUM-I. 71562, 42.9 mm SL; KAUM-I. 71584, 56.9 mm SL; KAUM-I. 71601, 41.0 mm SL; KAUM-I. 71627, 54.6 mm SL; KAUM-I. 71641, 48.5 mm SL; KAUM-I. 71647, 50.6 mm SL; KAUM-I. 71704, 35.1 mm SL; KAUM-I. 71705, 52.9 mm SL; KAUM-I. 71715, 52.8 mm SL; KAUM-I. 71716, 58.1 mm SL; KAUM-I. 71725, 47.5 mm SL; KAUM-I. 71726, 36.7 mm SL; KAUM-I. 71727, 35.0 mm SL.

Pomacentrus nagasakiensis Tanaka, 1917

[Jpn name: Nagasakisuzumedai] Fig. 6R

Material examined. KAUM-I. 71604, 82.7 mm SL; KAUM-I. 71621, 36.2 mm SL; KAUM-I. 71625, 40.1 mm SL.

Stegastes altus (Okada and Ikeda, 1937)

[Jpn name: Sedakasuzumedai] Fig. 6S

Material examined. KAUM-I. 71838, 123.0 mm SL; KAUM-I. 71856, 101.6 mm SL.

LABRIDAE

Anampses caeruleopunctatus Rüppell, 1829

[Jpn name: Buchisusukibera] Fig. 6T

Material examined. KAUM-I. 29387, 345.1 mm SL.

Bodianus oxycephalus (Bleeker, 1862)

[Jpn name: Kitsunedai] Fig. 6U

Shimada⁶⁾: 1094 (record from the Uji Islands).

Material examined. KAUM-I. 11112, 281.0 mm SL.

Remarks. Shimada's⁶⁾ record of *B. oxycephalus* from the Uji Islands was based on the present specimen.

Halichoeres melanochir Fowler and Bean, 1928

[Jpn name: Munatembera] Fig. 7A

Material examined. KAUM-I. 71626, 102.2 mm SL.

Labroides dimidiatus (Valenciennes, 1839)

[Jpn name: Honsomewakebera] Fig. 7B

Material examined. KAUM-I. 71570, 47.1 mm SL.

Pseudolabrus eoethinus (Richardson, 1846)

[Jpn name: Akasasanohabera] Fig. 7C

Material examined. KAUM-I. 71555, 42.3 mm SL; KAUM-I. 71885, 190.8 mm SL; KAUM-I. 71897, 27.4 mm SL.

Stethojulis interrupta terina Jordan and Snyder, 1902

[Jpn name: Kaminaribera] Fig. 7D

Material examined. KAUM-I. 15441, 71.1 mm SL; KAUM-I. 15445, 68.1 mm SL; KAUM-I. 71656, 63.3 mm SL.

Thalassoma cupido (Temminck and Schlegel, 1845)

[Jpn name: Nishikibera]



Fig. 8. Fishes of the Uji Islands – 6. A, *Heteroleotris exilis*, KAUM-I. 71609, 35.1 mm SL; B, *Priolepis cincta*, KAUM-I. 71593, 44.6 mm SL; C, *Trimma okinawae*, KAUM-I. 71589, 26.0 mm SL; D, *Acanthurus dussumieri*, KAUM-I. 71848, 141.3 mm SL; E, *Naso maculatus*, KAUM-I. 29386, 277.2 mm SL; F, *Aseraggodes* sp., KAUM-I. 71577, 34.3 mm SL; G, *Balistoides conspicillum*, KAUM-I. 71861, 220.3 mm SL; H, *Sufflamen chrysopterum*, KAUM-I. 71863, 148.6 mm SL; I, *Sufflamen fraenatum*, KAUM-I. 71883, 220.7 mm SL; J, *Ostracion immaculatus*, KAUM-I. 71840, 160.2 mm SL; K, *Canthigaster axiologus*, KAUM-I. 71837, 64.4 mm SL; L, *Canthigaster rivulata*, KAUM-I. 71882, 50.0 mm SL; M, *Chilomycterus reticulatus*, KAUM-I. 71853, 310.6 mm SL; N, *Diodon holocanthus*, KAUM-I. 71857, 170.4 mm SL.

Material examined. KAUM-I. 15469, 63.0 mm SL.

SCARIDAE

Calotomus japonicus (Valenciennes, 1840)

[Jpn name: Budai] Fig. 7E

Material examined. KAUM-I. 71846, 207.2 mm SL.

Scarus ghobban Forsskål, 1775

[Jpn name: Hibudai] Fig. 7F

Material examined. KPM-NI 35437, 516.5 mm SL.

PINGUIPEDIDAE

Parapercis tetracantha (Lacepède, 1801)

[Jpn name: Madaratoragisu] Fig. 7G

Material examined. KAUM-I. 71550, 69.7 mm SL.

CREEDIIDAE

Limnichthys fasciatus Waite, 1904

[Jpn name: Tobigimpo] Fig. 7H

Material examined. KAUM-I. 71608, 40.8 mm SL;

KAUM-I. 71619, 40.0 mm SL; KAUM-I. 71663, 39.3 mm SL.

TRIPTERYGIIDAE

Enneapterygius etheostoma (Jordan and Snyder, 1902)

[Jpn name: Hebigimpo] Fig. 7I

Material examined. KAUM-I. 71672, 41.6 mm SL; KAUM-I. 71699, 37.3 mm SL; KAUM-I. 71708, 39.6 mm SL; KAUM-I. 71733, 39.1 mm SL; KAUM-I. 71739, 38.0 mm SL; KAUM-I. 71740, 44.1 mm SL; KAUM-I. 71894, 31.1 mm SL; KAUM-I. 71911, 41.0 mm SL.

Enneapterygius tutuilae Jordan and Seale, 1906

[Jpn name: Segurohebigimpo]

Material examined. KAUM-I. 71710, 19.3 mm SL; KAUM-I. 71723, 19.8 mm SL; KAUM-I. 71747, 16.2 mm SL.

Remarks. In Kagoshima waters, this species has been recorded from the Nansei Islands where it ranges from Take-shima and Iou-jima islands to Yoron-jima island^{3, 25, 26}. The Uji specimens represent the northernmost records of the species in Kagoshima waters.

***Enneapterygius* sp.**

[Jpn name: N/A] Fig. 7J, K

Material examined. KAUM-I. 71563, 28.9 mm SL; KAUM-I. 71664, 26.4 mm SL; KAUM-I. 71674, 30.0 mm SL; KAUM-I. 71675, 28.9 mm SL; KAUM-I. 71676, 30.0 mm SL; KAUM-I. 71677, 31.8 mm SL; KAUM-I. 71679, 26.3 mm SL; KAUM-I. 71682, 20.9 mm SL; KAUM-I. 71712, 26.6 mm SL; KAUM-I. 71720, 31.9 mm SL; KAUM-I. 71737, 29.3 mm SL; KAUM-I. 71744, 30.9 mm SL; KAUM-I. 71745, 30.9 mm SL; KAUM-I. 71888, 27.7 mm SL; KAUM-I. 71892, 32.1 mm SL; KAUM-I. 71893, 29.0 mm SL; KAUM-I. 71895, 26.9 mm SL; KAUM-I. 71898, 33.0 mm SL; KAUM-I. 71904, 34.0 mm SL; KAUM-I. 71908, 28.6 mm SL; KAUM-I. 71910, 29.9 mm SL.

Remarks. This is the same species as *Enneapterygius* sp. 1 and *Enneapterygius* sp. described in Motomura and Matsuura³) and Meguro²⁵) respectively.

Helcogramma inclinata (Fowler, 1946)

[Jpn name: Ayahebigimpo] Fig. 7L

Material examined. KAUM-I. 71629, 47.9 mm SL; KAUM-I. 71630, 41.6 mm SL; KAUM-I. 71631, 42.7 mm SL; KAUM-I. 71637, 37.5 mm SL; KAUM-I. 71661, 51.4 mm SL; KAUM-I. 71662, 41.2 mm SL; KAUM-I. 71687, 40.0 mm SL; KAUM-I. 71695, 45.8 mm SL; KAUM-I. 71700, 40.4 mm SL; KAUM-I. 71728, 41.5 mm SL; KAUM-I. 71742, 24.0 mm SL; KAUM-I. 71743, 41.3 mm

SL; KAUM-I. 71891, 44.9 mm SL; KAUM-I. 71903, 41.1 mm SL.

Helcogramma striata Hansen, 1986

[Jpn name: Tatejimahebigimpo] Fig. 7M

Material examined. KAUM-I. 71598, 28.3 mm SL; KAUM-I. 71633, 28.1 mm SL; KAUM-I. 71635, 31.2 mm SL; KAUM-I. 71640, 30.3 mm SL; KAUM-I. 71642, 35.5 mm SL; KAUM-I. 71686, 41.3 mm SL; KAUM-I. 71688, 31.8 mm SL; KAUM-I. 71689, 36.6 mm SL; KAUM-I. 71690, 31.0 mm SL; KAUM-I. 71707, 53.4 mm SL; KAUM-I. 71709, 24.1 mm SL; KAUM-I. 71713, 35.0 mm SL; KAUM-I. 71905, 31.6 mm SL.

Norfolkia brachylepis (Schultz, 1960)

[Jpn name: Kokutennisehebigimpo] Fig. 7N

Material examined. KAUM-I. 71634, 48.0 mm SL; KAUM-I. 71636, 36.8 mm SL; KAUM-I. 71639, 38.0 mm SL; KAUM-I. 71643, 64.1 mm SL.

Springerichthys bapturnus (Jordan and Snyder, 1902)

[Jpn name: Himegimpo] Fig. 7O

Material examined. KAUM-I. 71721, 15.0 mm SL; KAUM-I. 71722, 15.6 mm SL.

Remarks. In Japanese waters, this species has been recorded from the mainland (Hokkaido to Kagoshima) and the Izu Islands²⁷). The present specimens represent the westernmost and southernmost records of the species in Japanese waters.

BLENNIIDAE

Ecsenius lineatus Klausewitz, 1962

[Jpn name: Hitosujigimpo] Fig. 7P

Material examined. KAUM-I. 71572, 64.7 mm SL.

Istiblennius enosimae (Jordan and Snyder, 1902)

[Jpn name: Kaeruuu]

Material examined. KAUM-I. 15578, 59.2 mm SL.

Praealticus tanegasimae (Jordan and Starks, 1906)

[Jpn name: Tanegimpo]

Material examined. KAUM-I. 15598, 61.0 mm SL; KAUM-I. 15613, 57.3 mm SL.

CHAENOPSIDAE

Neoclinus okazakii Fukao, 1987

[Jpn name: Araisokokegimpo] Fig. 7Q

Material examined. KAUM-I. 71573, 64.7 mm SL; KAUM-I. 71657, 42.9 mm SL.

Remark. A taxonomic study on the *Neoclinus bryope* species complex as defined by Fukao²⁸⁾ is underway. Preliminary results suggest that the specimens from the Uji Islands are *N. okazakii* (A. Murase, pers. comm.).

GOBIESOCIDAE

Conidens laticephalus (Tanaka, 1909)

[Jpn name: Ankouubauo] Fig. 7R

Material examined. KAUM-I. 71565, 29.6 mm SL; KAUM-I. 71566, 34.4 mm SL.

Lepadichthys sp. 1

[Jpn name: N/A] Fig. 7S

Material examined. KAUM-I. 71567, 33.3 mm SL.

Remarks. The present specimen is most likely to be an undescribed species that is also different from *Lepadichthys* sp. 2.

Lepadichthys sp. 2

[Jpn name: Minamiubauo] Fig. 7T

Material examined. KAUM-I. 71568, 23.1 mm SL; KAUM-I. 71569, 24.0 mm SL; KAUM-I. 71620, 24.8 mm SL.

Remarks. The present specimens are the same species as Hayashi and Hagiwara's²⁹⁾ *Lepadichthys* sp.

Pherallodichthys meshimaensis Shiogaki and Dotsu, 1983

[Jpn name: Meshimaubauo] Fig. 7U

Material examined. KAUM-I. 71913, 11.2 mm SL.

CALLIONYMIDAE

Spinicapitichthys draconis (Nakabo, 1977)

[Jpn name: Tatsunumeri]

Material examined. KAUM-I. 77794, 57.1 mm SL.

Remarks. The present female specimen, which is in poor condition, was obtained from the stomach of *Squalus mitsukurii* collected from the Uji Islands. This rare species has previously been recorded only from Wakayama and Kochi prefectures, and Australia³⁰⁾.

GOBIIDAE

Bathygobius fuscus (Rüppell, 1830)

[Jpn name: Kumohaze]

Material examined. KAUM-I. 15473, 60.5 mm SL; KAUM-I. 15601, 45.4 mm SL; KAUM-I. 15611, 39.1 mm SL.

Callogobius shunkan Takagi, 1957

[Jpn name: Shunkanhaze] Fig. 7V

Material examined. KAUM-I. 71612, 35.0 mm SL.

Remarks. The present specimen represents the southwestern-most record of this species in Japanese waters; it has previously been recorded from the Izu Islands, Chiba Prefecture to Kagoshima mainland, and Nagasaki³¹⁾.

Chaenogobius gulosus (Guichenot, 1882)

[Jpn name: Dorome]

Material examined. KAUM-I. 15579, 67.5 mm SL.

Remarks. The present specimen represents the southernmost record of the species.

Eviota masudai Matsuura and Senou, 2006

[Jpn name: Akaisohaze] Fig. 7W

Material examined. KAUM-I. 71610, 29.9 mm SL; KAUM-I. 71632, 25.8 mm SL.

Eviota prasina (Klunzinger, 1871)

[Jpn name: Nan-youmidorihaze] Fig. 7X

Material examined. KAUM-I. 71611, 24.0 mm SL; KAUM-I. 71646, 22.6 mm SL; KAUM-I. 71741, 33.4 mm SL; KAUM-I. 71896, 18.5 mm SL; KAUM-I. 71902, 20.3 mm SL; KAUM-I. 71909, 23.6 mm SL.

Eviota toshiyuki Greenfield and Randall, 2010

[Jpn name: Midorihaze] Fig. 7Y

KAUM-I. 71552, 17.8 mm SL; KAUM-I. 71613, 35.0 mm SL; KAUM-I. 71614, 22.4 mm SL; KAUM-I. 71669, 22.7 mm SL; KAUM-I. 71746, 23.3 mm SL; KAUM-I. 71906, 20.0 mm SL; KAUM-I. 71907, 16.7 mm SL.

Fusigobius duospilus Hoese and Reader, 1985

[Jpn name: Sehoshisankakuhaze] Fig. 7Z

Material examined. KAUM-I. 71591, 43.0 mm SL; KAUM-I. 71592, 62.8 mm SL; KAUM-I. 71654, 43.5 mm

SL; KAUM-I. 71655, 39.6 mm SL; KAUM-I. 71736, 38.3 mm SL.

Gnatholepis cauerensis (Bleeker, 1853)

[Jpn name: Kataboshioomhaze] Fig. 7A'

Material examined. KAUM-I. 71597, 41.6 mm SL; KAUM-I. 71734, 39.4 mm SL.

Heteroleotris exilis Shibukawa, 2010

[Jpn name: Sasagakihaze] Fig. 8A

Material examined. KAUM-I. 71609, 35.1 mm SL.

Remarks. This species was recently described as a new species from Okinawa-jima island on the basis of a single specimen³²⁾. Akihito *et al.*³¹⁾ reported an additional nine specimens from Yaku-shima island. The present specimen represents the northernmost record of the species.

Priolepis cincta (Regan, 1908)

[Jpn name: Benkeihaze] Fig. 8B

Material examined. KAUM-I. 71593, 44.6 mm SL; KAUM-I. 71659, 23.9 mm SL; KAUM-I. 71899, 21.6 mm SL; KAUM-I. 71901, 29.1 mm SL.

Trimma okinawae (Aoyagi, 1949)

[Jpn name: Okinawabenhaze] Fig. 8C

Material examined. KAUM-I. 71589, 26.0 mm SL; KAUM-I. 71673, 19.8 mm SL; KAUM-I. 71678, 26.3 mm SL; KAUM-I. 71680, 23.5 mm SL; KAUM-I. 71681, 23.9 mm SL; KAUM-I. 71735, 23.9 mm SL; KAUM-I. 71749, 19.0 mm SL; KAUM-I. 71887, 21.6 mm SL.

ACANTHURIDAE

Acanthurus dussumieri Valenciennes, 1835

[Jpn name: Nisekanranhagi] Fig. 8D

Material examined. KAUM-I. 71848, 141.3 mm SL.

Naso maculatus Randall and Struhsaker, 1981

[Jpn name: Gomatenguhagimodoki] Fig. 8E

Material examined. KAUM-I. 29385, 394.1 mm SL; KAUM-I. 29386, 277.2 mm SL.

Prionurus scalprum Valenciennes, 1835

[Jpn name: Nizadai]

Material examined. KAUM-I. 15577, 101.8 mm SL.

CAPROIDAE

Antigonia rubicunda Ogilby, 1910

[Jpn name: Minamihishidai]

Material examined. KAUM-I. 15621, 57.4 mm SL.

Remarks. In Japanese waters, this species has been known only from the Ogasawara Islands, Wakayama Prefecture, and the Okinawa Trough³³⁾. The present specimen represents the first record of the species from Kagoshima waters.

SOLEIDAE

***Aseraggodes* sp.**

[Jpn name: Musumeushinoshita] Fig. 8F

Material examined. KAUM-I. 71577, 34.3 mm SL.

BALISTIDAE

Balistoides conspicillum (Bloch and Schneider, 1801)

[Jpn name: Mongarakawahagi] Fig. 8G

Material examined. KAUM-I. 71861, 220.3 mm SL.

Remarks. This species is abundant in the vicinity of the entrance of the Uji Fishing Port.

Sufflamen chrysopterum (Bloch and Schneider, 1801)

[Jpn name: Tsumajiromongara] Fig. 8H

Material examined. KAUM-I. 71847, 151.6 mm SL; KAUM-I. 71862, 173.3 mm SL; KAUM-I. 71863, 148.6 mm SL; KAUM-I. 71864, 141.6 mm SL; KAUM-I. 71865, 149.4 mm SL; KPM-NI 35453, 172.5 mm SL.

Remarks. This species is abundant in the vicinity of the entrance of the Uji Fishing Port.

Sufflamen fraenatum (Latreille, 1804)

[Jpn name: Meganehagi] Fig. 8I

Material examined. KAUM-I. 71849, 235.4 mm SL; KAUM-I. 71852, 195.8 mm SL; KAUM-I. 71877, 203.3 mm SL; KAUM-I. 71883, 220.7 mm SL; KPM-NI 35443, 246.5 mm SL; KPM-NI 35444, 225.5 mm SL.

Remarks. This species is abundant in the vicinity of the entrance of the Uji Fishing Port.

OSTRACIIDAE

Ostracion immaculatus Temminck and Schlegel, 1850

[Jpn name: Hakofugu] Fig. 8J

Material examined. KAUM-I. 71840, 160.2 mm SL; KAUM-I. 71854, 133.1 mm SL.

TETRAODONTIDAE

Canthigaster axiologus Whitley, 1931

[Jpn name: Hanakinchakufugu] Fig. 8K

Material examined. KAUM-I. 71748, 62.2 mm SL;
KAUM-I. 71837, 64.4 mm SL.

Remarks. The specific name has been treated as *axiologa* by many authors^{34, 35}, but it is in fact *axiologus* because the Latinised Greek *longus* is a noun in apposition¹³.

Canthigaster rivulata (Temminck and Schlegel, 1850)

[Jpn name: Kitamakura] Fig. 8L

Material examined. KAUM-I. 71882, 50.0 mm SL.

DIODONTIDAE

Chilomycterus reticulatus (Linnaeus, 1758)

[Jpn name: Ishigakifugu] Fig. 8M

Material examined. KAUM-I. 71853, 310.6 mm SL.

Diodon holocanthus Linnaeus, 1758

[Jpn name: Harisembon] Fig. 8N

Material examined. KAUM-I. 71836, 120.0 mm SL;
KAUM-I. 71857, 170.4 mm SL.

Discussion

In this study, 153 fish species (126 genera and 70 families) were confirmed to occur around the Uji Islands on the basis of the examination of 560 specimens, with 148 species representing the first records from the islands based on collected specimens. Records of four (*Myripristis berndti*, *Halicampus brocki*, *Neoscombrops pacificus*, and *Heteroleotris exilis*) and six (*Myripristis kochiensis*, *Marukawichthys ambulator*, *Springerichthys bapturnus*, *Spinicapitichthys draconis*, *Callogobius shunkan*, and *Chaenogobius gulosus*) species from the Uji Islands represent extensions to their northernmost and southernmost distributional ranges respectively in Japanese waters on the basis of collected specimens.

The presence or absence of inshore fishes better represents biogeographical features than the presence or absence of deepwater fishes, which usually have a broader distribution (sometimes even circumglobal). Inshore families, the Gobiidae (11 species) and Serranidae (11 species, plus one deepwater species), are the most speciose families of the Uji Islands. The next most speciose families

are the Tripterygiidae (7 species), Labridae (6 species, plus one deepwater species), Scorpaenidae (5 species), and Pomacentridae (5 species). The remaining families include only four or fewer inshore species.

In the lower reaches of the Kuroshio Current³⁶ (e.g., Sagami Sea, Osezaki, Izu Peninsula, and Ogasawara Islands^{36, 37}), the top three most speciose families are generally the Gobiidae, Labridae, and Serranidae, and the Gobiidae, Labridae, and Pomacentridae are the most speciose families in the upper reaches of the current (e.g., Kushimoto, Wakayama; Kashiwa-jima island, Kochi; Iou-jima, Take-shima, Yaku-shima, and Yoron-jima islands, Kagoshima; Okinawa-jima, Ie-jima, Miyako-jima, Ishigaki-jima, and Iriomote-jima islands^{36, 37}). As mentioned above, the most speciose families of the Uji Islands are the Gobiidae, Serranidae, Tripterygiidae, and Labridae. Although the Uji Islands are geographically located near Iou-jima, Take-shima, and Yaku-shima islands in the Osumi Islands, the ichthyofauna of the former, at least at family composition level, is similar to that of places in the lower reaches of the Kuroshio Current (Sagami Sea and Izu Peninsula). The third most speciose family of the Uji Islands, the Tripterygiidae, does not appear in the top eight families in any nearby locality³⁶. Because the published lists of fishes from most localities were based mainly on underwater photographs, most species of the Tripterygiidae were not identified nor listed³⁶.

There are also many temperate water species occurring in the Uji Islands, even though the islands are located close to Yaku-shima island where tropical water species dominate^{3, 38}. Twelve species that are largely distributed in mainland Japan and recorded from the Uji Islands, but do not or rarely occur in the Ryukyu Islands, are confirmed: viz., *Muraena pardalis* (Muraenidae), *Scorpaenopsis cirrosa* (Scorpaenidae), *Epinephelus bruneus* (Serranidae), *Acanthoplesiops psilogaster* (Plesiopidae), *Parupeneus spilurus* (Mullidae), *Girella punctata* (Girellidae), *Oplegnathus fasciatus* (Oplegnathidae), *Goniistius zonatus* (Cheilodactylidae), *Calotomus japonicus* (Scaridae), *Springerichthys bapturnus* (Tripterygiidae), *Spinicapitichthys draconis* (Callionymidae), and *Callogobius shunkan* (Gobiidae). Although no specimen of *Scarus ovifrons* Temminck and Schlegel, 1846 (Scaridae), which is mainly distributed in mainland Japan, was collected (and therefore not listed in this study), it was relatively common among

the concrete tetrapods outside the Uji Fishing Port. The occurrence of such temperate water species suggests that the ichthyofauna of the Uji Islands is not strongly influenced by the Kuroshio Current but is probably more influenced by fishes transferred from the north via the southward current along the west coast of the Satsuma Peninsula (Fig. 1).

Underwater observations off the entrance of the Uji Fishing Port showed that fish species diversity was remarkably low. Although the degree of transparency of the water was very high (due to the distance from shore, and Uji Island's lack of inhabitants and freshwater rivers), very few epibenthic species were observed at depths of 3–20 m. Only the following six species were considered abundant: *Pomacentrus coelestis* (Pomacentridae), *Pseudolabrus eoethinus* (Labridae), *Acanthurus dussumieri* (Acanthuridae), and *Balistoides conspicillum*, *Sufflamen chrysopterum*, and *S. fraenatum* (Balistidae). *Balistoides conspicillum* was especially abundant and numerous individuals were often seen at once. In the Ryukyu Islands, many species of the Pomacentridae, Labridae, and Acanthuridae were observed via scuba diving. However, with the exception of *Pomacentrus coelestis* (Pomacentridae), *Pseudolabrus eoethinus* (Labridae), and *Acanthurus dussumieri* (Acanthuridae), other species attributed to these three families were rarely seen while scuba diving. In fact, only a few species (mostly less than three species) in each family were recorded from the Uji Islands. This unusual species composition and low species diversity may indicate that some environmental factors, including the strong water currents surrounding the islands, prevent some fishes from settling in the inshore water of the Uji Islands.

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