

Commercial and Bycatch Market Fishes *of* Panay Island, Republic of the Philippines

Nanarisari nga Isda nga Ginabaligga sa
Merkado sa Isla sang Panay, Pilipinas

Hiroyuki Motomura
Ulysses B. Alama
Nozomu Muto
Ricardo P. Babaran
Satoshi Ishikawa



Commercial and Bycatch Market Fishes of Panay Island, Republic of the Philippines

Nanarisari nga Isda nga Ginabaligya sa
Merkado sa Isla sang Panay, Pilipinas



For bibliographic purposes this book should be cited as follows:

Motomura, H., U. B. Alama, N. Muto, R. P. Babaran, and S. Ishikawa (eds). 2017 (Jan.).
Commercial and bycatch market fishes of Panay Island, Republic of the Philippines.
The Kagoshima University Museum, Kagoshima, University of the Philippines Visayas,
Iloilo, and Research Institute for Humanity and Nature, Kyoto. 246 pp, 911 figs

Commercial and Bycatch Market Fishes Panay Island, Republic of the Philippines

Edited by Hiroyuki Motomura, Ulysses B. Alama, Nozomu Muto,
Ricardo P. Babaran, and Satoshi Ishikawa



The Kagoshima University Museum, Japan
University of the Philippines Visayas, Philippines
Research Institute for Humanity and Nature, Japan

Copyright © 2017 by the Kagoshima University Museum, Kagoshima, University of the Philippines Visayas, Iloilo, and Research Institute for Humanity and Nature, Kyoto

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without prior written permission from the publisher. Copyrights of the photographs are held by the Kagoshima University Museum.

Motomura, H., U. B. Alama, N. Muto, R. P. Babaran, and S. Ishikawa (eds). Commercial and bycatch market fishes of Panay Island, Republic of the Philippines. The Kagoshima University Museum, Kagoshima, University of the Philippines Visayas, Iloilo, and Research Institute for Humanity and Nature, Kyoto. 246 pp, 911 figs

ISBN 978-4-905464-08-2

Design & DTP by Hiroyuki Motomura (Kagoshima University Museum)

Corresponding editor: Hiroyuki Motomura (e-mail: motomura@kaum.kagoshima-u.ac.jp)

Preface

The Philippines is part of the Coral Triangle in the western Pacific Ocean. This region is believed to be hosting from 2,000 to 3,000 fish species as well as the center of marine fish diversity. Yet there is hardly a good reference to guide field researchers working on fish taxonomy and fisheries. The publication of this field guide of fishes, which is a product of a 5-year collaborative effort involving scientists from the Philippines, Thailand and Japan through the Coastal Area Capability Enhancement of Southeast Asia Project, is based on a regular collection of fish specimens from fish markets in Iloilo City and adjacent landing sites in Panay Island, Central Philippines. It puts together 911 color photographs of specimens representing 597 species in a single volume, including at least 19 previously unrecorded species in the Philippines, simply confirming high fish diversity in this area.

The field guide comes at a time when fish resources in the Philippines are subject to intense fishing pressure, usually resulting in degradation of marine habitats. These fishing conditions negatively impact individual species that form part of these vulnerable aquatic ecosystems, and the declining state of these ecosystems provides additional impetus to know what and up to what extent fish species are affected. This field guide will be an important general reference for fish taxonomy and related subjects at the graduate and undergraduate levels.

This work is a sequel to similar field guides that came out from the collaborations of the renowned Japanese scientists, particularly from Kagoshima University, who were also involved in previous engagements in Terengganu, Malaysia and Thailand. A review of the three field guides in Malaysia, Thailand, and now the Philippines reveals the occurrence of common species, many of which are widely distributed encompassing fishing grounds of these three countries. Independent investigations for some of these species are now revealing that sub-populations exist within each species, although they are seemingly geographically homogeneous. These three field guides thus provide bases for more purposive fish population studies for species that commonly occur in these countries.

This field guide can serve as a general reference for fish taxonomy and related subjects at the graduate and undergraduate level. It is also a useful companion for fisheries scientists, ichthyologists, and field investigators of tropical marine fish species in this part of the Philippines.

The financial support of the Research Institute for Humanity and Nature (RIHN, Project No. 14200061) for sustaining the activities of Filipino and Japanese collaborators for this project is gratefully appreciated.

Ricardo P. Babaran

University of the Philippines Visayas



Editors

Hiroyuki Motomura

PhD, Professor, Director, the Kagoshima University Museum, 1–21–30 Korimoto, Kagoshima 890–0065, Japan (e-mail: motomura@kaum.kagoshima-u.ac.jp)

Ulysses B. Alama

BS, Museum of Natural Sciences, College of Fisheries and Ocean Sciences, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines (e-mail: ubalama@upv.edu.ph)

Nozomu Muto

PhD, Lecturer, Department of Marine Biology and Sciences, School of Biology, Tokai University, 5–1–1–1 Minamizawa, Minami-ku, Sapporo, Hokkaido 005–8601, Japan (e-mail: nzmuto@tsc.u-tokai.ac.jp)

Ricardo P. Babaran

PhD, Professor, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines (e-mail: rpbabaran@upv.edu.ph)

Satoshi Ishikawa

PhD, Professor, Research Institute for Humanity and Nature, 457–4 Motoyama, Kamigamo, Kita-ku, Kyoto 603–8047, Japan (e-mail: oounagipapa@gmail.com)



Authors (alphabetical order)

Ulysses B. Alama — See Editors

Yukino Ando, BS — The Kagoshima University Museum (Graduate School of Fisheries, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Ayumi Bandai — The Kagoshima University Museum (Faculty of Fisheries, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Wilfredo L. Campos, PhD — College of Arts and Sciences, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines

Satoru N. Chiba, PhD — Tuna and Skipjack Resources Department, National Research Institute of Far Seas Fisheries, 5–7–1 Orido, Shimizu, Shizuoka 424–8633, Japan

Sirikanya Chungthanawong, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Ramon S. Cruz, BS — College of Fisheries and Ocean Sciences, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines

Kyoji Fujiwara — National Fisheries University, 2–7–1 Nagatahonmachi, Shimonoseki, Yamaguchi 759–6595, Japan

Yoshino Fukui, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Arnold C. Gaje, BS — College of Arts and Sciences, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines

Armi May T. Guzman, MS — Institute of Marine Fisheries and Oceanology, College of Fisheries and Ocean Sciences, University of the Philippines Visayas, 5023 Miagao, Iloilo, Philippines

Yuriko Haraguchi — The Kagoshima University Museum, 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Harutaka Hata, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Yusuke Hibino, PhD — Fisheries Research Laboratory, Mie University, 4190–172, Wagu, Shima, Mie 517–0703, Japan

Hisashi Imamura, PhD — Laboratory of Marine Biology and Biodiversity (Systematic Ichthyology), Faculty of Fisheries Sciences, Hokkaido University (Fisheries Science Center, the Hokkaido University Museum), 3–1–1 Minato, Hakodate, Hokkaido 041–8611, Japan

Tomoki Inaba, BS — The Kagoshima University Museum (Graduate School of Fisheries, Kagoshima University), 1–21–30 Korimoto, Kagoshima 890–0065, Japan

Satoshi Ishikawa, PhD — See Editors

Yukio Iwatsuki, PhD — Department of Marine Biology & Environmental Sciences, Faculty of Agriculture, University of Miyazaki, 1-1 Gakuen-kibanadai-nishi, Miyazaki 889-2192, Japan

Byeol Jeong, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Eri Katayama, PhD — National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba, Ibaraki 305-0005, Japan

Toshio Kawai, PhD — Fisheries Science Center, the Hokkaido University Museum, 3-1-1 Minato, Hakodate, Hokkaido 041-8611, Japan

Kimitatsu Kawama — The Kagoshima University Museum (Faculty of Fisheries, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Seishi Kimura, PhD — Fisheries Research Laboratory, Mie University, 4190-172, Wagu, Shima, Mie 517-0703, Japan

Keita Koeda, PhD — The Kagoshima University Museum (JSPS Research Fellow), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Kunto Wibowo, BS — The Kagoshima University Museum (Graduate School of Fisheries, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Kaoru Kuriwa, PhD — National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba, Ibaraki 305-0005, Japan

B. Mabel Manjaji-Matsumoto, PhD — Endangered Marine Species Research Unit, Borneo Marine Research Institute, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, Malaysia

Mizuki Matsunuma, PhD — Laboratory of Marine Biology, Faculty of Science, Kochi University, 2-5-1 Akebono, Kochi 780-8520, Japan

Rei Matsuo, BS — Fisheries Research Laboratory, Mie University, 4190-172, Wagu, Shima, Mie 517-0703, Japan

Keiichi Matsuura, PhD — National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba, Ibaraki 305-0005, Japan

Hiroyuki Motomura, PhD — See Editors

Fumihito Muto, PhD — School of Marine Science and Technology, Tokai University, 3-20-1 Orido, Shimizu-ku, Shizuoka 424-8610, Japan

Nozomu Muto, PhD — See Editors

Masanori Nakae, PhD — National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba, Ibaraki 305-0005, Japan

Naohide Nakayama, PhD — The Kyoto University Museum, Yoshida, Sakyo, Kyoto 606-8501, Japan

Makoto Okamoto, PhD — Seikai National Fisheries Research Institute, 1551-8 Taira, Nagasaki 851-2213, Japan

Barry C. Russell, PhD — Museum & Art Gallery of the Northern Territory, PO Box 4646, Darwin, NT 0801, Australia

Hiroshi Senou, PhD — Kanagawa Prefectural Museum of Natural History, 499 Iryuda, Odawara, Kanagawa 250-0031, Japan

Koichi Shibukawa, PhD — Museum of Natural and Environmental History, Shizuoka, 5762 Oya, Surugaku, Shizuoka 422-8017, Japan

Hiromu Suzuki, BS — Fisheries Research Laboratory, Mie University, 4190-172, Wagu, Shima, Mie 517-0703, Japan

Satokuni Tashiro, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Hinako Tatsukawa — The Kagoshima University Museum (Faculty of Law, Economics and the Humanities, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Takuya Uejo — The Kagoshima University Museum (Open University of Japan), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Veera Vilasri, PhD — National Science Museum (Thailand), Technopolis, Khlong 5, Khlong Luang, Pathumthani 12120, Thailand

Tomohiro Yoshida, MS — The Kagoshima University Museum (United Graduate School of Agricultural Sciences, Kagoshima University), 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Contents

Preface	5	Centriscidae	61	Chaetodontidae	167
Editors	6	Mugilidae	61	Pomacanthidae	170
Authors	6	Atherinidae	63	Pentacerotidae	170
Acknowledgments	9	Hemiramphidae	63	Cepolidae	171
Introduction	10	Exocoetidae	64	Pomacentridae	172
How to use this book	14	Belonidae	66	Terapontidae	175
Chimaeridae	19	Neosebastidae	67	Kyphosidae	176
Heterodontidae	19	Scorpaenidae	67	Nomeidae	177
Scyliorhinidae	20	Synanceiidae	69	Ariommatidae	179
Triakidae	20	Tetrarogidae	69	Polynemidae	180
Carcharhinidae	21	Aploactinidae	69	Labridae	181
Squalidae	22	Triglidae	70	Scaridae	186
Pristiophoridae	23	Peristediidae	71	Pinguipedidae	189
Rhinobatidae	24	Platycephalidae	72	Trichonotidae	190
Rajidae	24	Dactylopteridae	75	Champsodontidae	191
Urolophidae	25	Latidae	77	Uranoscopidae	192
Dasyatidae	25	Ambassidae	77	Blenniidae	192
Elopidae	27	Acropomatidae	78	Callionymidae	193
Megalopidae	27	Serranidae	79	Butidae	195
Moringuidae	27	Symphysanodontidae	93	Eleotridae	196
Muraenidae	29	Opistognathidae	93	Gobiidae	197
Ophichthidae	31	Priacanthidae	94	Oxudercidae	200
Congridae	35	Apogonidae	96	Ehippidae	201
Muraenesocidae	38	Malacanthidae	102	Scatophagidae	202
Clupeidae	39	Echeneidae	102	Siganidae	202
Engraulidae	43	Rachycentridae	102	Zanclidae	204
Chirocentridae	46	Coryphaenidae	103	Acanthuridae	205
Chanidae	46	Menidae	103	Sphyraenidae	208
Gonorynchidae	46	Carangidae	104	Gempylidae	209
Ariidae	47	Leiognathidae	121	Trichiuridae	210
Plotosidae	48	Bramidae	125	Scombridae	211
Synodontidae	48	Emmelichthyidae	128	Channidae	216
Paralepididae	51	Lutjanidae	128	Psettodidae	216
Myctophidae	52	Caesionidae	137	Paralichthyidae	216
Bregmacerotidae	54	Lobotidae	139	Bothidae	219
Macrouridae	54	Gerreidae	140	Samaridae	221
Ophidiidae	55	Hapalogenyidae	142	Soleidae	222
Carapidae	55	Haemulidae	142	Cynoglossidae	226
Antennariidae	55	Nemipteridae	145	Triacanthidae	229
Ogcocephalidae	56	Sparidae	153	Balistidae	229
Berycidae	57	Lethrinidae	153	Monacanthidae	231
Holocentridae	57	Sciaenidae	158	Ostraciidae	235
Trachichthyidae	59	Sillaginidae	160	Tetraodontidae	236
Zeidae	59	Mullidae	161	Diodontidae	239
Caproidae	60	Pempheridae	165	Scientific name index	240
Pegasidae	60	Glaucosomatidae	166		
Fistularidae	60	Drepaneidae	166		

Acknowledgments

This research project was conducted under a Memorandum of Agreement for joint research made by and among the Department of Agriculture of the Republic of the Philippines (DA), the University of the Philippines Visayas (UPV), the Kagoshima University Museum, the Research Institute for Humanity and Nature (RIHN, Project No. 14200061), and Tokai University, facilitated by S. L. Sanchez [Bureau of Fisheries and Aquatic Resources (BFAR), DA]. P. J. Alcalá (DA) provided a Prior Informed Consent Certificate, and I. P. Cabacaba and S. M. S. Nolasco (BFAR, DA) provided a fish specimen Export Certificate (No. 2016-39812). We thank the staff of the Office of the Vice-Chancellor for Research and Extension, UPV, UPV Museum of Natural Sciences, College of Fisheries, UPV, including S. S. Garibay, V. G. Urbina, L. H. Mooc, C. J. N. Rubido, E. P. Abunal, and R. F. M. Traifalgar, and graduate students of the College of Fisheries, UPV and the Kagoshima University Museum (KAUM) for their support of this research collaboration. This project was also supported in part by JSPS KAKENHI Grant Numbers JP26241027, JP24370041, JP23580259, and JP26450265; the JSPS Core-to-Core Program, “Research and Education Network on Southeast Asian Coastal Ecosystems”; the “Biological Properties of Biodiversity Hotspots in Japan” project of the National Museum of Nature and Science, Tsukuba, Japan; and the “Establishment of Research and Education Network on Biodiversity and Its Conservation in the Satsunan Islands” project of Kagoshima University adopted by the Ministry of Education, Culture, Sports, Science and Technology, Japan. The first editor (HM) is deeply grateful to M. F. Gomon (Museum Victoria, Melbourne, Australia) for providing identification of *Hoplostethus*, G. K. Yearsley (Ellipsis Editing, Rosny, Australia) for reading the text and providing help with English, and M. Meguro, G. Ogihara, K. Eguchi, and A. Yoshiura (KAUM) for their help in the field survey.



Caranx ignobilis at Iloilo Central Market. Photo: H. Motomura

Introduction

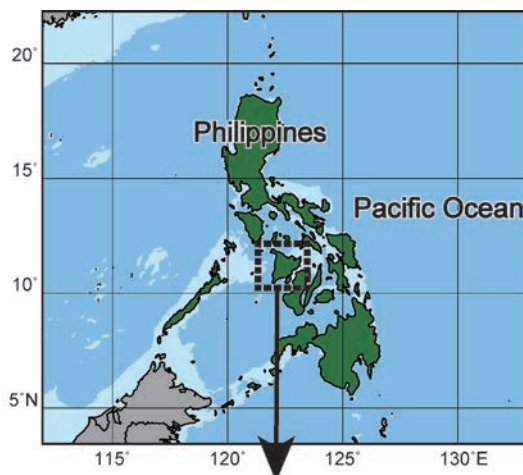
The Philippines lies in the tropical zone of the western Pacific Ocean, being located in the northeastern part of the East Indies and also at the apex of the Coral Triangle. The Coral Triangle, which includes Malaysia, Indonesia, Papua New Guinea, and the Solomon Islands, has the highest concentration of marine species globally (Nañola et al. 2010). Herre (1953) compiled a list of 2,145 fish species from the Philippines. Subsequently, Myers (1989) and Randall (1998) estimated that there are 2,500 marine fish species in the Philippines.

Randall (1998: fig. 2) documented that in the Pacific Ocean, marine fish species diversity peaks in the Philippines and the number of species of shore fishes reduces with distance from the Philippines. Based on the analysis of distributional data for nearly 3,000 species, Carpenter & Springer (2005) identified the central Philippines as a marine diversity hotspot in the island nation and called it “the center of the center of marine shore fish biodiversity”. Thus, the Visayan region, central Philippines, is known to have the highest concentration of shore fishes compared with any other large marine area in the world (Allen 2008, Nañola et al. 2010).

However, despite having the highest species richness in the Philippines based mostly on historical museum specimens, recent transect observations on Visayan coral reefs by Nañola et al. (2010) revealed that the region has “currently” the lowest species richness in the nation. This decline in species numbers in the Visayan region has probably been caused by intense fishing and habitat degradation.

To effectively manage fisheries to help revive the fish species richness in the Visayan region, it is important to first record as a benchmark the fish species currently traded at local markets. To this end, this book provides basic knowledge of market fishes on Panay Island in the Visayan region.

The fishes of the Philippines are poorly known; no comprehensive list of fish species has been published since Herre (1953). In addition, only a few popular and semi-popular picture books have been published: e.g., Schroeder (1980) provided descriptions of 525 shore fish species from the western Sulu Sea, mostly with color photographs of fresh specimens, and Broad (2003) gave color photographs of 450 species from the Philippines (no locality data for each photograph).



Map of Panay Island, showing locations of fish markets where fishes were collected during this project (N. Muto)

A research team of Filipinos/Filipinas and Japanese carried out market surveys on the southern coast of Panay Is. from 2012 to 2016 as a part of the “Coastal Area Capability Enhancement in Southeast Asia Project” of the Research Institute for Humanity and Nature, Kyoto, Japan. Initially, a fish reference collection was established at the Museum of Natural Sciences, University of the Philippines Visayas (UPV). During the surveys, about 3,000 fish specimens were collected and purchased from local markets scattered along the south coast of Panay Is. These specimens have been deposited mainly in fish collections of the UPV Museum of Natural Sciences, Iloilo, Philippines (UPVMI) and the Kagoshima University Museum, Kagoshima, Japan (KAUM); one specimen used in this book



Fish markets in Iloilo City, Panay Island, Philippines

was transferred to the National Museum of Nature and Science, Tsukuba, Japan (NSMT). Curatorial procedures for collected specimens followed Motomura & Ishikawa (2013). This book provides 911 color photographs of 597 fish species belonging to 132 families from Panay Is. on the basis of voucher specimens. At least 19 of the 597 species in this book represent the first record of the species from Philippine waters, and several unidentified species expressed as “sp.” are probably undescribed species that need further study.

(H. Motomura)

The following literature was used to identify the specimens and prepare the species accounts.

References

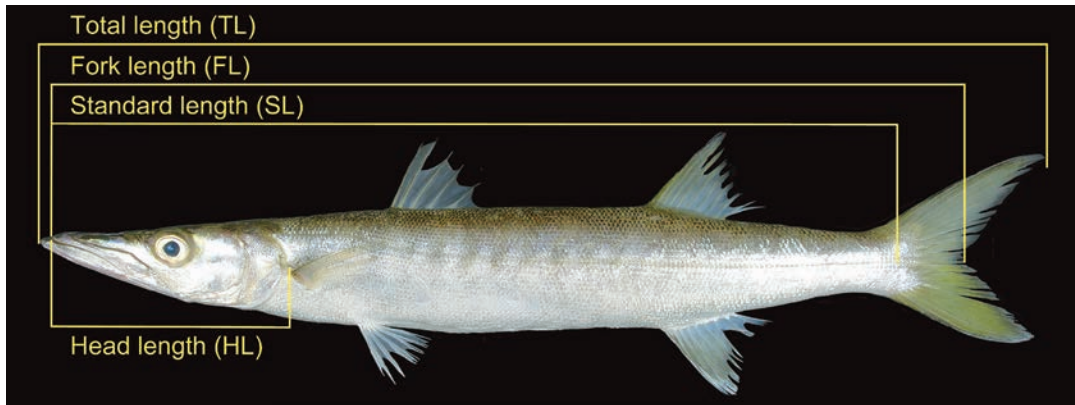
- Allen, G. R. & M. V. Erdmann. 2012. Reef fishes of the East Indies. Vols. 1–3. Tropical Reef Research, Perth. x + 1260 pp.
- Carpenter, K. E. & V. H. Niem (eds). 1999–2001. FAO species identification guide for fishery purposes. The living marine resources of the western central Pacific. Vols. 3–6. FAO, Rome. vi + v + iv + v + 1397–4218 pp.
- Cohen, D. M., T. Inada, T. Iwamoto & N. Scialabba. 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (order Gadiformes). An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO, Rome. x + 442 pp.

- Duffy, C. A. J. & P. R. Last. 2007. Part 4 – *Squalus raoulensis* sp. nov., a new spurdog of the ‘megalops-cubensis group’ from the Kermadec Ridge. Pp. 31–38. In Last, P. R., W. T. White & J. J. Pogonoski (eds). New dogfishes of the genus *Squalus* (Squaloidea: Squalidae). CSIRO Marine and Atmospheric Research Paper No. 014.
- Eschmeyer, W. N. 1997. A new species of Dactylopteridae (Pisces) from the Philippines and Australia, with a brief synopsis of the family. *Bull. Mar. Sci.*, 60: 727–738.
- Eschmeyer, W. N., R. Fricke & R. van der Laan (eds). 2016. Catalog of fishes: genera, species, references. Available at <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. Electronic version updated 29 September 2016.
- Fricke, R. 1981. The kaianus-group of the genus *Callionymus* (Pisces: Callionymidae), with descriptions of six new species. *Proc. Calif. Acad. Sci.*, 42 (14): 349–377.
- Froese, R. & D. Pauly (eds). 2016. FishBase. Available at www.fishbase.org.
- Gilbert, C. H. 1905. The deep-sea fishes of the Hawaiian Islands. The aquatic resources of the Hawaiian Islands. *Bull. U. S. Fish Comm.*, 23 (2): 577–713.
- Gilbert, C. H. & C. L. Hubbs. 1920. The macrouroid fishes of the Philippine Islands and the East Indies. *Proc. U. S. Nat. Mus.*, 43: 105–140.
- Harry, R. R. 1953. Studies on the bathypelagic fishes of the family Paralepididae (order Iniomi). 1. A revision of the North Pacific species. *Proc. Acad. Nat. Sci. Phila.*, 105: 169–230.
- Ho, H.-C., K.-N. Shen & C.-W. Chang. 2011. A new species of the unicornfish genus *Naso* (Teleostei: Acanthuridae) from Taiwan, with comments on its phylogenetic relationship. *Raffles Bull. Zool.*, 59: 205–211.
- Iwamoto, T. & A. Williams. 1999. Grenadiers (Pisces, Gadiformes) from the continental slope of western and northwestern Australia. *Proc. Calif. Acad. Sci.*, 51: 105–243.
- Kawaguchi, K. & K. Aioi. 1972. Myctophid fishes of the genus *Myctophum* (Myctophidae) in the Pacific and Indian oceans. *J. Oceanogr. Soc. Jpn.*, 28: 161–175.
- Kawaguchi, K. & H. Shimizu. 1978. Taxonomy and distribution of the lanternfishes, genus *Diaphus* (Pisces, Myctophidae) in the western Pacific, eastern Indian oceans and the Southeast Asian seas. *Bull. Ocean Res. Inst. Univ. Tokyo*, (10): 1–145.
- Kawai, T. 2013. Revision of the peristediid genus *Satrichthys* (Actinopterygii: Teleostei) with the description of a new species, *S. milleri* sp. nov. *Zootaxa*, 3635: 419–438.
- Kimura, S., U. Satapoomin & K. Matsuura, 2009. Fishes of Andaman Sea. National Museum of Nature and Science, Tokyo. vi + 346 pp.
- Last, P. R., S. Corrigan & G. J. Naylor. 2014. *Rhinobatos whitei*, a new shovelnose ray (Batoidea: Rhinobatidae) from the Philippine Archipelago. *Zootaxa*, 3872 (1): 31–47.
- Last, P. R., B. Séret & G. J. Naylor. 2016. A new species of guitarfish, *Rhinobatos borneensis* sp. nov. with a redefinition of the family-level classification in the order Rhinopristiformes (Chondrichthyes: Batoidea). *Zootaxa*, 4117 (4): 451–475.
- Last, P. R., W. T. White & B. Séret. 2016. Taxonomic status of maskrays of the *Neotrygon kuhlii* species complex (Myliobatoidei: Dasyatidae) with the description of three new species from the Indo-West Pacific. *Zootaxa*, 4083 (4): 533–561.
- Matsunuma, M. & H. Motomura. 2016. *Chelidoperca stella*, a new species of perchlet (Perciformes: Serranidae) from the Andaman Sea, eastern Indian Ocean. *Zootaxa*, 4092: 388–400.
- McKay, R. J. 1997. Pearl perches of the world (family Glaucosomatidae). An annotated and illustrated catalogue of the pearl perches known to date. FAO Fisheries Synopsis, No. 125 (17): i–v + 1–26.
- Nafpaktitis, B. G. 1978. Systematics and distribution of lanternfishes of the genera *Lobianchia* and *Diaphus* (Myctophidae) in the Indian Ocean. *Nat. Hist. Mus. Los Angeles County Sci. Bull.*, 30: 1–92.
- Nafpaktitis, B. G., R. H. Backus, J. E. Craddock, R. L. Headrich, B. H. Robison & C. Karnella. 1977. Fishes of the western North Atlantic. Part 7. Order Iniomi (Myctophiformes). *Mem. Sears Found. Mar. Res.*, (1): i–xv + 1–299.
- Nakabo, T. (ed.). 2002. Fishes of Japan with pictorial keys to the species, English edition. Vols. 2. Tokai University Press, Tokyo. lxi + vii + 1749 pp.
- Nakabo, T. (ed.). 2013. Fishes of Japan with pictorial keys to the species, third edition. Vols. 3. Tokai University Press, Hadano. xlix + xxxii + xvi + 2428 + (ii) pp.
- Nemeth, D. 1994. Systematics and distribution of fishes of the family Champsodontidae (Teleostei: Perciformes), with descriptions of three new species. *Copeia*, 1994: 347–371.
- Randall, J. E. 2002. Surgefishes of Hawai‘i and the world. Mutual Publishing and Bishop Museum Press, Honolulu. vi + 125 pp.
- Randall, J. E. 2005. Reef and shore fishes of the South Pacific. New Caledonia to Tahiti and the Pitcairn Islands. University of Hawai‘i Press, Honolulu. xii + 707 pp.
- Sakai, K. & T. Nakabo. 2004. Two new species of *Kyphosus* (Kyphosidae) and a taxonomic review of *Kyphosus bigibbus* Lacepède from the Indo-Pacific. *Ichthyol. Res.*, 51: 20–32.
- Sakai, K. & T. Nakabo. 2006. Taxonomic reviews of two Indo-Pacific sea chubs, *Kyphosus cinerascens* (Forsskål, 1775) and *Kyphosus sydneyanus* (Günther, 1886). *Ichthyol. Res.*, 53: 337–356.
- Sasaki, K. & P. J. Kailola. 1988. Three new Indo-Australian species of the sciaenid genus *Atrubucca*, with a reevaluation of generic limit. *Japan. J. Ichthyol.*, 35: 261–277.
- White, W. T., P. R. Last & J. D. Stevens. 2007. *Halaelurus maculosus* n. sp. and *H. sellus* n. sp., two new species of catshark (Carcharhiniformes: Scyliorhinidae) from the Indo–West Pacific. *Zootaxa*, 1639: 1–21.
- Williams, J. T. & K. E. Carpenter. 2015. A new fish species of the subfamily Serraninae (Perciformes, Serranidae) from the Philippines. *Zootaxa*, 3911: 287–293.
- Wisner, R. L. 1976. The taxonomy and distribution of lanternfishes (family Myctophidae) in the eastern Pacific Ocean. *NORDA (Navy Ocean Research and Development Activity) Rep.*, (3): i–vii + 1–229.

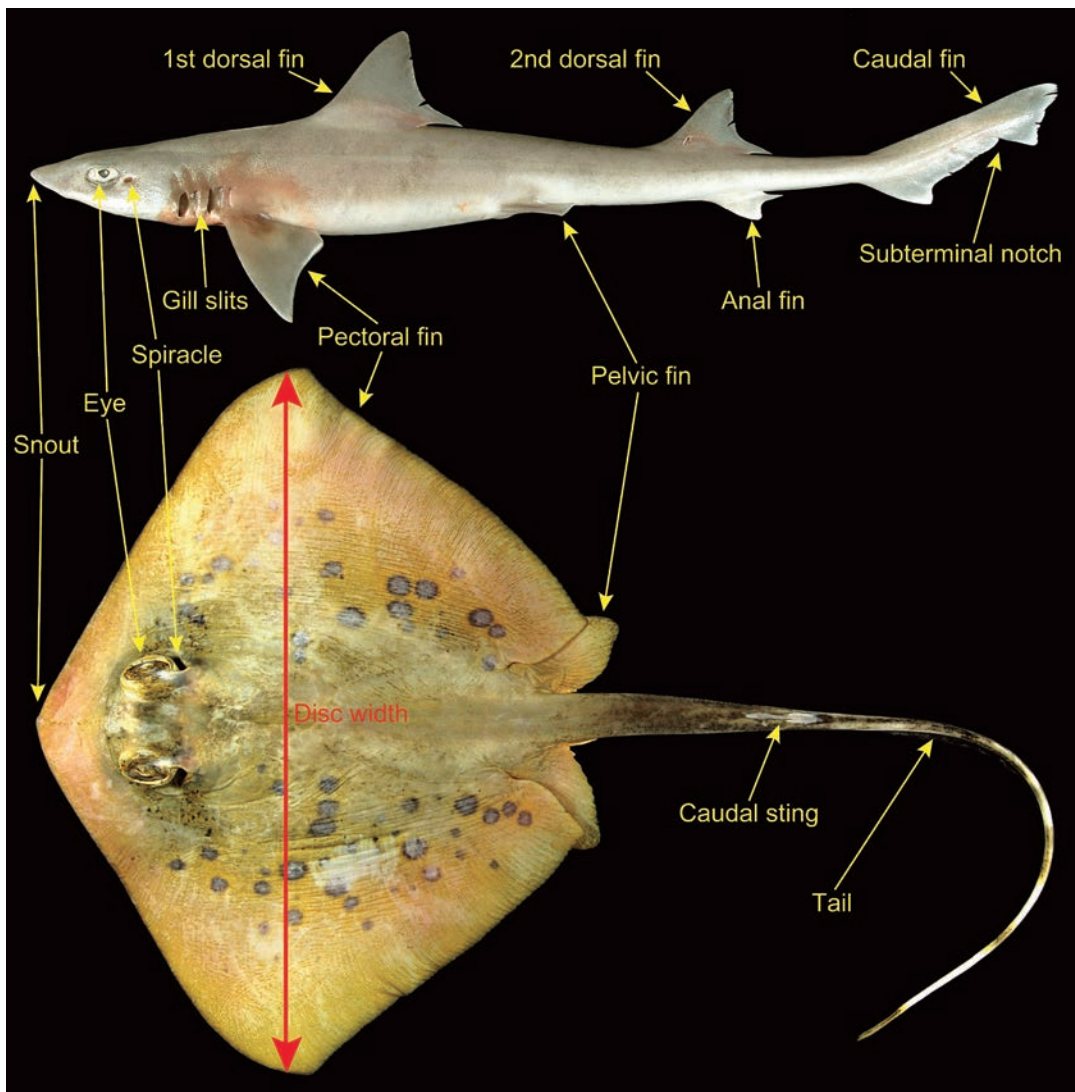
Literature cited (in text)

- Allen, G. R. 2008. Conservation hotspots of bio-diversity and endemism for Indo-Pacific coral reef fishes. *Aquat. Conserv. Mar. Freshw. Ecosyst.*, 18: 541–556.
- Bos, A. R. & G. S. Gumanao. 2013. Seven new records of fish (Teleostei: Perciformes) from coral reefs and pelagic habitats in southern Mindanao, the Philippines. *Mar. Biodiv. Rec.*, 6: 1–6.
- Broad, G. 2003. *Fishes of the Philippines. A guide to identification of families.* Anvil Publishing, Inc. xii + 512 pp.
- Carpenter, K. E. & V. G. Springer. 2005. The center of the center of marine shore fish biodiversity: the Philippine Islands. *Environ. Biol. Fish.*, 72: 467–480.
- Fricke, R. 1983. Revision of the Indo-Pacific genera and species of the dragonet family Callionymidae (Teleostei). J. Cramer, Braunschweig. *Theses Zoologicae*, 3: i–x + 1–774.
- Fricke, R. 2002. Annotated checklist of the dragonet families Callionymidae and Draconettidae (Teleostei: Callionymoidei), with comments on callionymid fish classification. *Stuttg. Beitr. Naturk. Ser. A (Biol.)*, 645: 1–103.
- Hata, H. & H. Motomura. 2016. Validity of *Encrasicholina pseudoheteroloba* (Hardenberg 1933) and redescription of *Encrasicholina heteroloba* (Rüppell, 1837), a senior synonym of *Encrasicholina devisi* (Whitley 1940) (Clupeiformes: Engraulidae). *Ichthyol. Res.*, doi 10.1007/s10228-016-0529-4
- Herre, A. W. 1953. Check list of Philippine fishes, U.S. Government Printing Office, Washington, DC. 977 pp.
- Ho, H.-C., D. G. Smith, J. E. McCosker, Y. Hibino, K.-H. Loh, K. A. Tighe & K.-T. Shao. 2015. Annotated checklist of eels (orders Anguilliformes and Saccopharyngiformes) from Taiwan. *Zootaxa*, 4060 (1): 140–189.
- Iwatsuki, Y. & B. C. Russell. 2006. Revision of the genus *Hapalogenys* (Teleostei: Perciformes) with two new species from the Indo-West Pacific. *Mem. Mus. Vic.*, 63: 29–46.
- Iwatsuki, Y., J. M. Al-Mamry & P. C. Heemstra. 2016. Validity of a blue stripe snapper, *Lutjanus octolineatus* (Cuvier 1828) and a related species, *L. bengalensis* (Bloch 1790) with a new species (Pisces: Lutjanidae) from the Arabian Sea. *Zootaxa*, 4098 (3): 511–528.
- Matsunuma, M., S. Tashiro, U. B. Alama & H. Motomura. 2014. First record of a unicornfish, *Naso tergus* (Perciformes: Acanthuridae), from the Philippines. *Mem. Fac. Fish. Kagoshima Univ.*, 62: 7–10.
- Motomura, H. 2004. Threadfins of the world (family Polynemidae). An annotated and illustrated catalogue of polynemid species known to date. *FAO Species Catalogue for Fishery Purposes No. 3.* FAO, Rome. vii + 117 pp.
- Motomura, H. 2004. Revision of the scorpionfish genus *Neosebastes* (Scorpaeniformes: Neosebastidae), with descriptions of five new species. *Indo-Pacif. Fish.*, 37: 1–76.
- Motomura, H. & S. Ishikawa (eds). 2013. *Fish collection building and procedures manual.* English edition. Kagoshima University Museum, Kagoshima and Research Institute for Humanity and Nature, Kyoto. 70 pp. Available at http://www.museum.kagoshima-u.ac.jp/staff/motomura/dl_en.html
- Myers, R. F. 1989. *Micronesian reef fishes.* Coral Graphics, Guam. 298 pp.
- Nañola, C. L. Jr., P. M. Aliño & K. E. Carpenter. 2010. Exploitation-related reef fish species richness depletion in the epicenter of marine biodiversity. *Environ. Biol. Fish.*, doi 10.1007/s10641-010-9750-6
- Nelson, J. S. 2006. *Fishes of the world.* 4th edition. John Wiley & Sons, Hoboken. xix + 601 pp.
- Nielsen, J. G., D. M. Cohen, D. F. Markle & C. R. Robins. 1999. *FAO species catalogue. Vol. 18. Ophidiiform fishes of the world (order Ophidiiformes).* An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date. FAO, Rome. xi + 178 pp.
- Oshiro, N., K. Yogi, A. Shuko, T. Sasaki, K. Tamanaha, M. Hirama, T. Yasumoto & Y. Inafuku. 2010. Ciguatera incidence and fish toxicity in Okinawa, Japan. *Toxicol.*, 56: 656–661.
- Polanco F., A., A. Acero P. & R. Betancur-R. 2016. No longer a circumtropical species: revision of the lizardfishes in the *Trachinocephalus myops* species complex, with description of a new species from the Marquesas Islands. *J. Fish Biol.*, doi 10.1111/jfb.13038
- Randall, J. E. 1998. Zoogeography of shore fishes of the Indo-Pacific region. *Zool. Stud.*, 37: 227–268.
- Randall, J. E. & P. C. Heemstra. 2006. Review of the Indo-Pacific fishes of the genus *Odontanthias* (Serranidae: Anthinae), with descriptions of two new species and related new genus. *Indo-Pac. Fish.*, 38: 1–31.
- Schroeder, R. E. 1980. *Philippine shore fishes of the western Sulu Sea.* National Media Production Center, Manila. xvi + 266 pp.

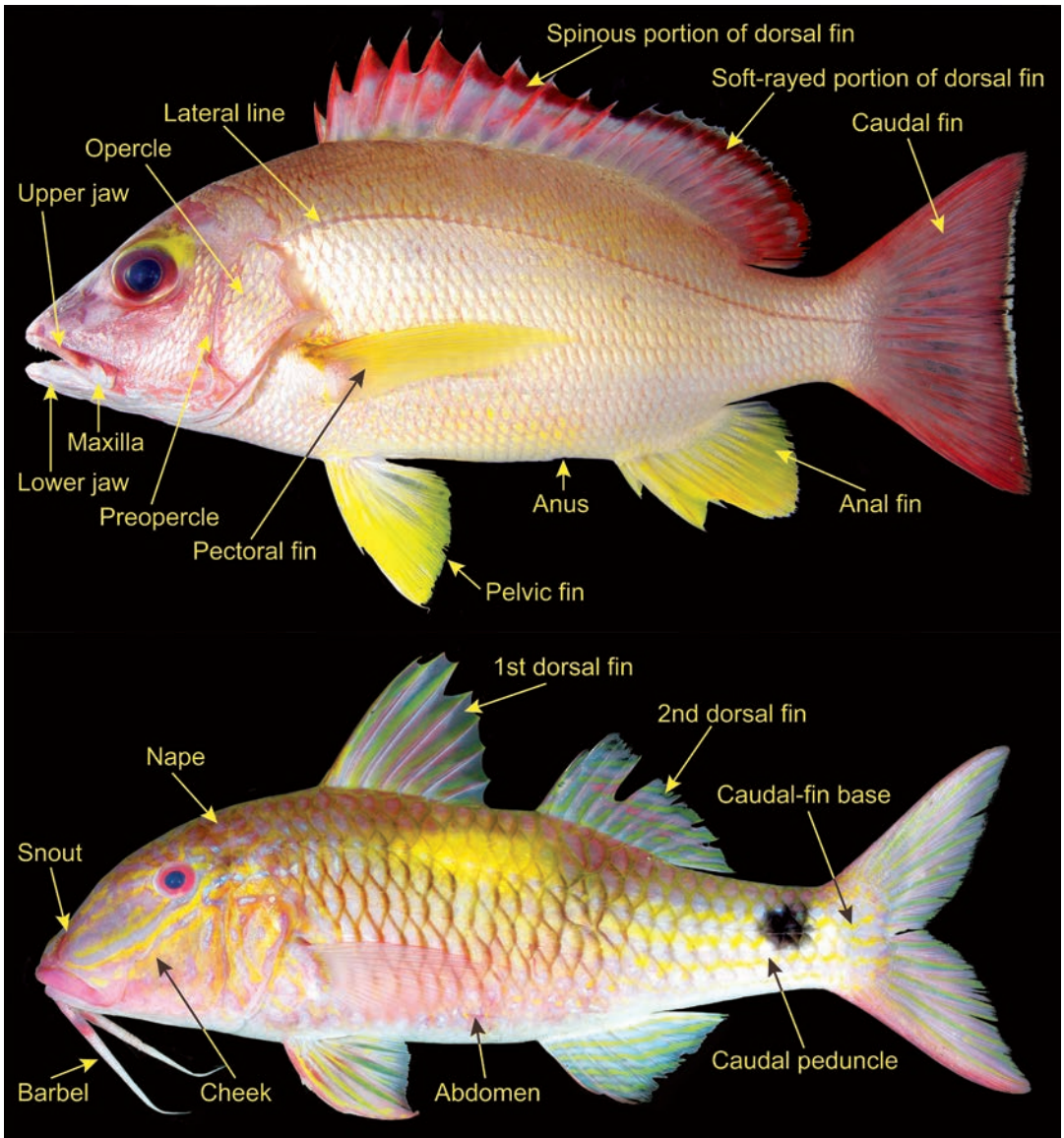
How to use this book



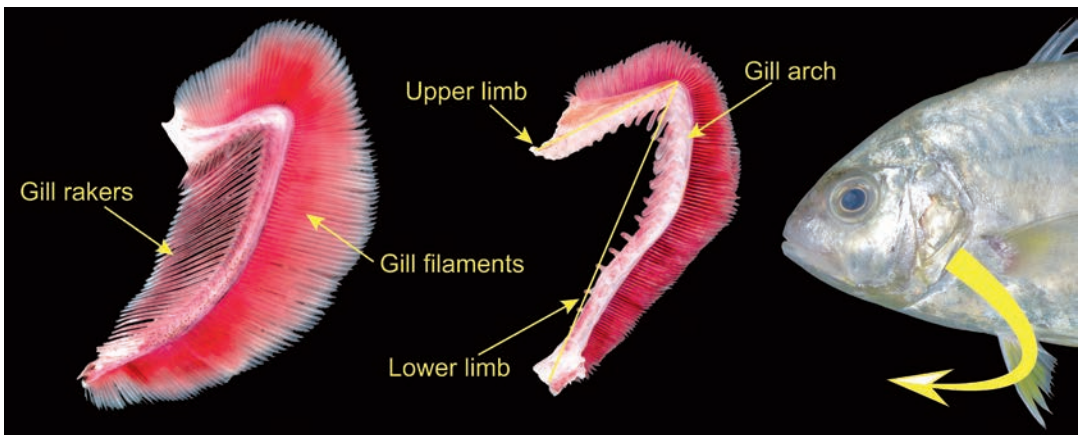
Basic measurements of fishes and abbreviations used in this book (H. Motomura)



Body parts of elasmobranchs (H. Motomura)



Body parts of bony fishes (H. Motomura)



Gill arches of bony fishes (H. Motomura). Left: carangid; right: seabastid (photos by M. Matsunuma)

The systematic arrangement of families generally follows Nelson (2006). Species in families are arranged in alphabetical order by scientific name. Each species record was compiled from voucher specimens. On each figure legend, scientific name, sex (if available), catalog number, and size (standard, total, or fork lengths in mm) are given.

The number of spinous and soft fin rays are described by Roman numerals (I, II, III, etc.) and Arabic numerals (1, 2, 3, etc.) respectively. Spinous fin rays are generally called spines. In the case of the dorsal or anal fins containing both a spine (or spines) and soft rays, the number of spines and soft rays are separated by a comma. Gill rakers on the first gill arch on the right side of the body were used for counting. The number of gill rakers on the upper and lower limbs are separated by a “+” sign. When present, gill rakers (one or more) between the limbs are included in the lower limb counts.

Each species account includes family name, scientific name, and the following information:

En English name: standard name for the species is included if available.

C Characters: several morphological features, including coloration, are described.

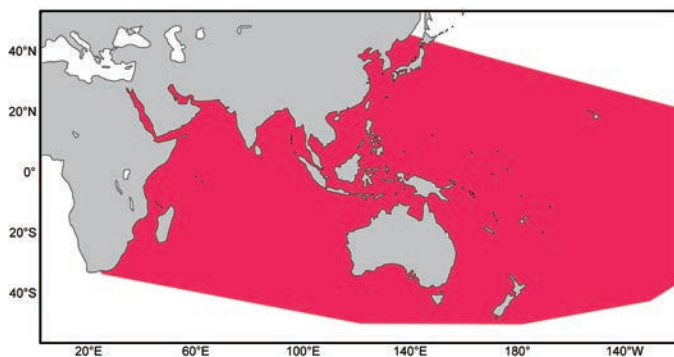
D Distribution: geographic distribution is described. Typical distribution patterns of fishes occurring in the Philippines are shown here. Samoa is located the outside the Australian Plate, but Samoa is treated as a part of the western Pacific Ocean in this book.

H Habitat: vertical distribution and habitats are described.

S Size: recorded maximum size in cm or m as SL (standard length), TL (total length), or FL (fork length) is described.

R Remarks: comments on taxonomy, nomenclature, comparisons, market information, etc. are included where appropriate.

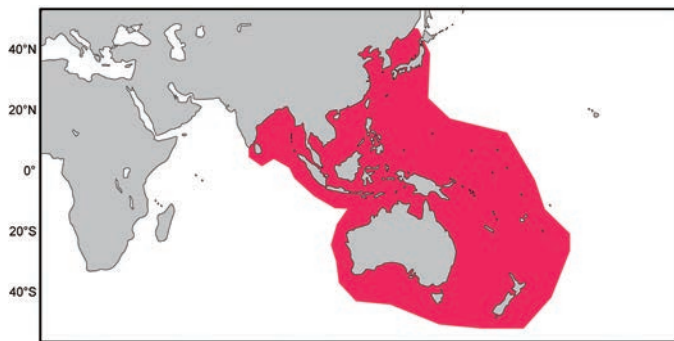
(H. Motomura)



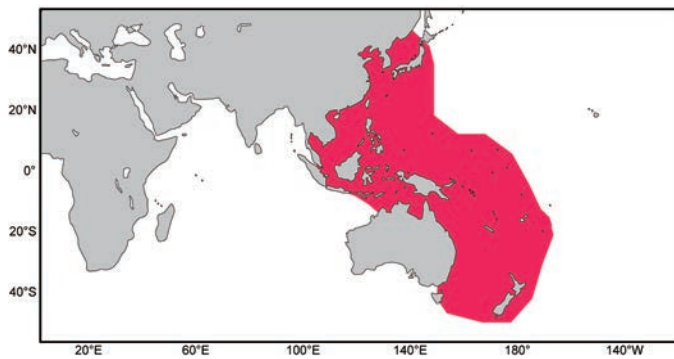
Indo-Pacific Ocean (east coast of Africa to Hawaiian and Easter Is.)



Indo-West Pacific Ocean (east coast of Africa to Japan and Melanesia)



East Indian and western Pacific oceans



Western Pacific Ocean

Typical distribution patterns of fishes occurring in the Philippines



Dried fish section at Iloilo Central Market



Dried *Caranx ignobilis*



Cooked *Caranx ignobilis*



Eubleekeria jonesi at Iloilo Central Market. Photo: H. Motomura

*H. purpureus*, UPVMI 769, 609.0 mm TL

Family Chimaeridae

Hydrolagus purpureus
(Gilbert 1905)

En Purple Chimaera

C • Head length 1.6 times 1st dorsal-fin length • Anal fin absent • Filament of caudal fin moderately long • Body without any patterning

D Off northeastern Japan, Philippines to Hawaii

H Benthopelagic; 1120–1951 m depth

S 1.1 m TL

(B. M. Manjaji-Matsumoto)

*H. zebra*, UPVMI 583, 477.6 mm TL

Family Heterodontidae

Heterodontus zebra
(Gray 1831)

En Zebra Hornshark

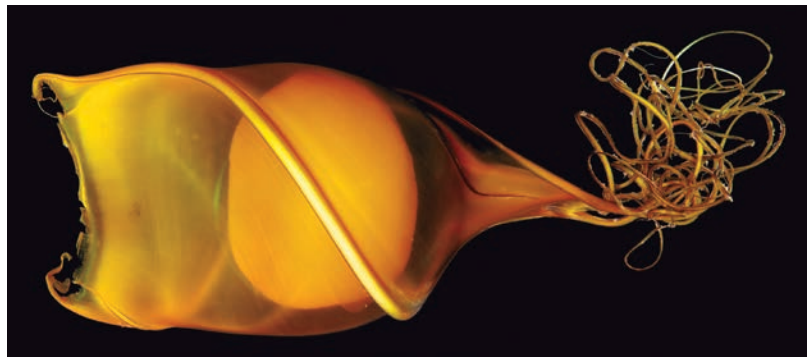
C • Head blunt with low crests over eyes • Dorsal fins preceded by short, stout spines • Body with numerous dark, narrow bands

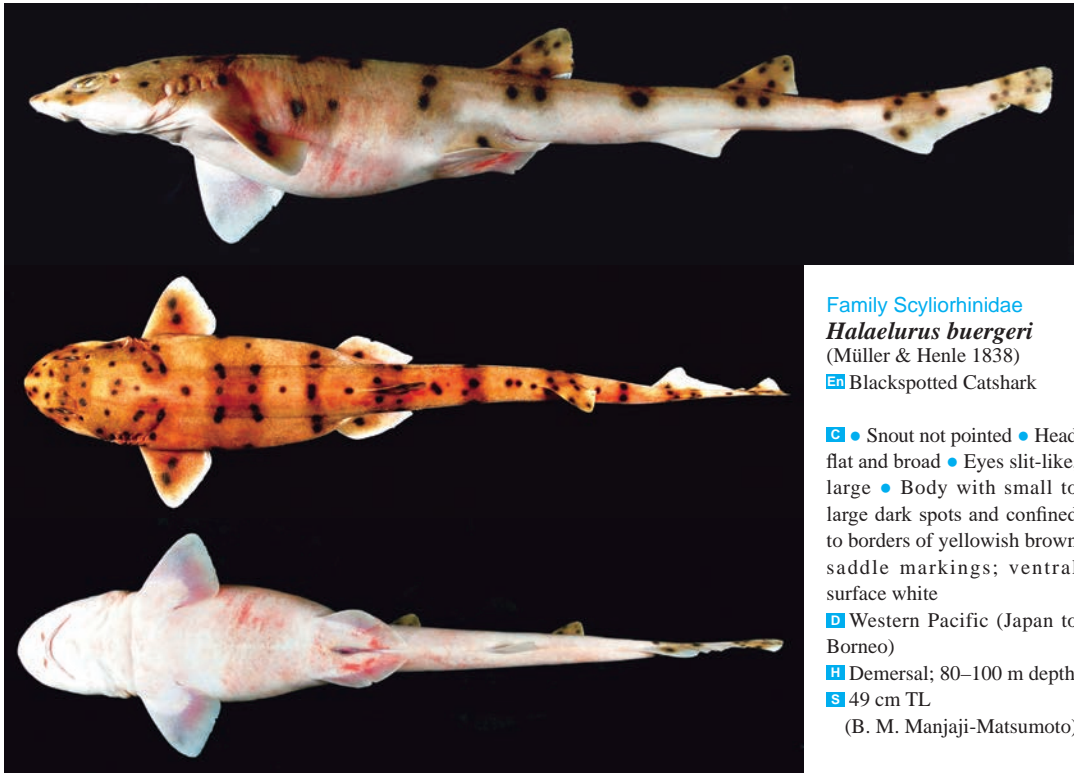
D Western Pacific (Japan to Australia)

H Continental and insular shelves; mostly to about 50 m, deeper off Australia (150–200 m depth)

S 1.2 m TL; hatch at about 15 cm TL

(B. M. Manjaji-Matsumoto)

*H. zebra*, egg, UPVMI 1674, 40.7 mm



Family Scyliorhinidae

Halaelurus buergeri

(Müller & Henle 1838)

En Blackspotted Catshark

C • Snout not pointed • Head flat and broad • Eyes slit-like, large • Body with small to large dark spots and confined to borders of yellowish brown saddle markings; ventral surface white

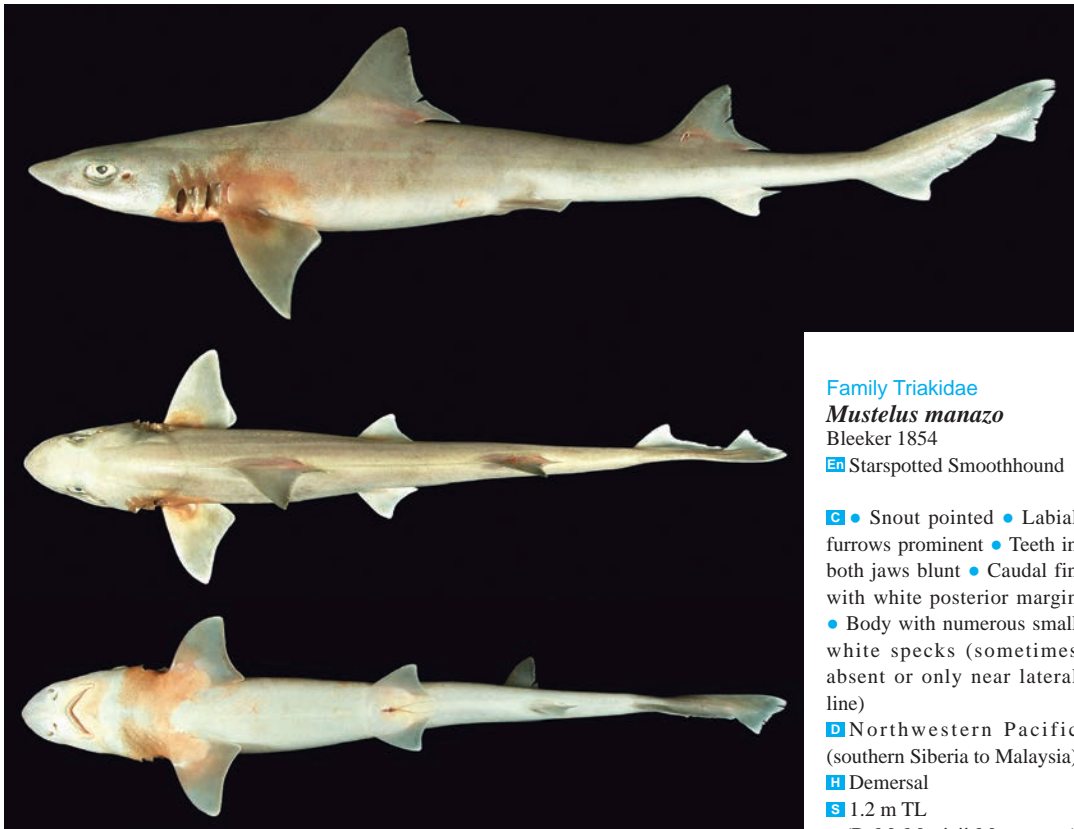
D Western Pacific (Japan to Borneo)

H Demersal; 80–100 m depth

S 49 cm TL

(B. M. Manjaji-Matsumoto)

H. buergeri, UPVMI 445, 446.9 mm TL



Family Triakidae

Mustelus manazo

Bleeker 1854

En Starspotted Smoothhound

C • Snout pointed • Labial furrows prominent • Teeth in both jaws blunt • Caudal fin with white posterior margin • Body with numerous small white specks (sometimes absent or only near lateral line)

D Northwestern Pacific (southern Siberia to Malaysia)

H Demersal

S 1.2 m TL

(B. M. Manjaji-Matsumoto)

M. manazo, UPVMI 469, 522.0 mm TL



Family Carcharhinidae

Carcharhinus maclooti

(Müller & Henle 1838)

En Hardnose Shark

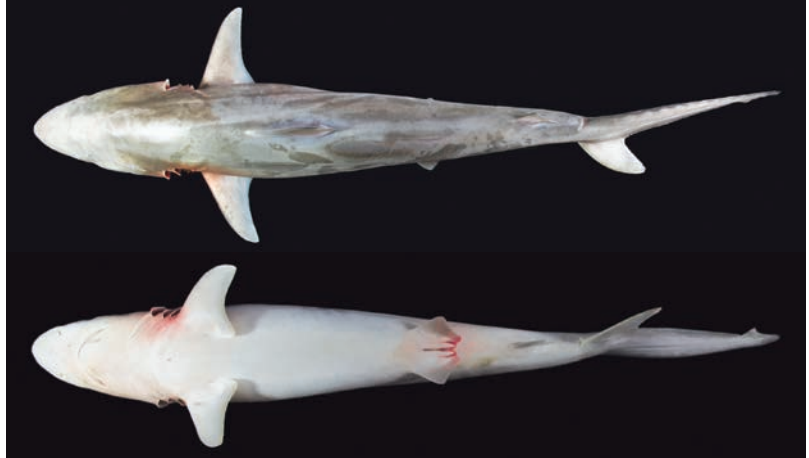
C • Snout pointed • Teeth in both jaws narrow with erect central cusp; upper teeth with strong cusplets • Dorsal, pectoral and caudal fins dusky

D Indo-West Pacific (eastern Africa to New Guinea)

H Demersal

S 1.1 m TL

(B. M. Manjaji-Matsumoto)

*C. maclooti*, UPVMI 1689, 860.0 mm TL

Family Carcharhinidae

Carcharhinus melanopterus

(Quoy & Gaimard 1824)

En Blacktip Reef Shark

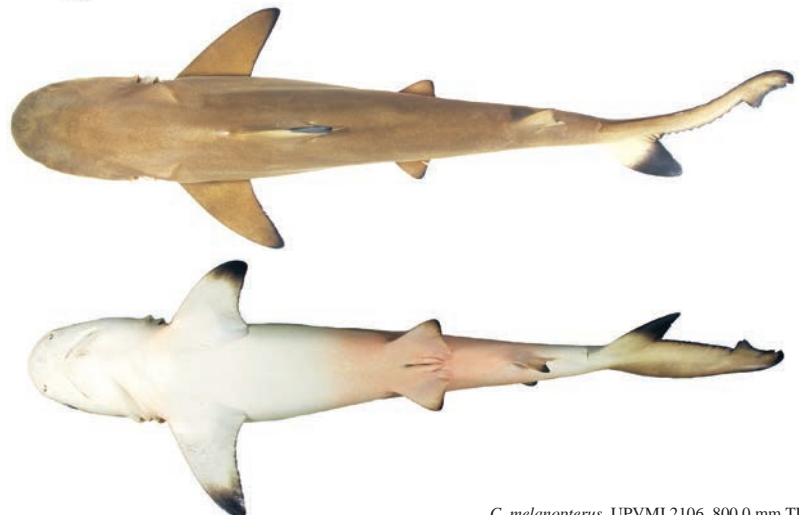
C • Snout short, broadly rounded • Dorsal, pectoral, anal and caudal fins lower lobe with black tips • Body light brown, with a distinct pale stripe on flanks

D Indo-Pacific (eastern Africa to Hawaiian Is. and Pitcairn Is.)

H Coral reefs

S 1.4 m TL

(B. M. Manjaji-Matsumoto)

*C. melanopterus*, UPVMI 2106, 800.0 mm TL



G. cuvier, UPVMI 829, 789.0 mm TL

Family Carcharhinidae

Galeocerdo cuvier

(Péron & Lesueur 1822)

En Tiger Shark

- C** • Snout short, bluntly rounded • Upper labial furrows very long • Teeth in both jaws broad-based, hooked-shaped, strongly serrated
- Body with dark bars on sides, extending to caudal-fin upper lobe (less distinct in adults)
- D** Cosmopolitan in all tropical seas, with seasonal incursions into sub-tropical waters
- H** Close inshore to the outer continental shelf
- S** 6 m TL
- R** Potentially dangerous to humans given its large size and presence close inshore, but normally not aggressive

(B. M. Manjaji-Matsumoto)



S. altipinnis, UPVMI 1000, 424.7 mm TL

Family Squalidae

Squalus altipinnis

Last, White & Stevens 2007

En Western Highfin Spurdog

- C** • Snout narrowly pointed
- Dorsal fins preceded by narrow but robust spines
- Dermal denticle crowns elevated on pedicels, broad with 1 or 3 cusps
- D** Western Pacific (Philippines and Borneo to north-western Australia)
- H** Near the bottom on the outer continental shelf and upper slope in 130–300 m
- S** 72 cm TL

(B. M. Manjaji-Matsumoto)



Family Squalidae

Squalus brevirostris

Tanaka 1917

En Japanese Shortnose Spurdog

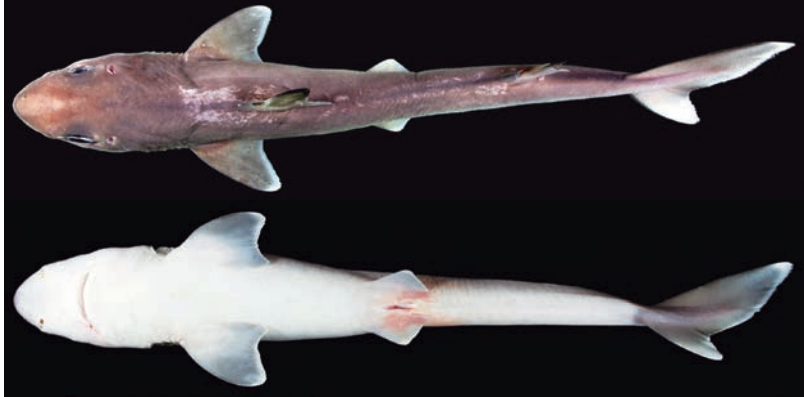
C • Snout relatively short; head length 20-21% TL • Dorsal fins preceded by narrow but robust spines; second dorsal fin deeply concave • Lateral dermal denticle arrow-shaped

D Western Pacific (Japan to Philippines)

H Demersal; to 130 m

S 60 cm TL

(B. M. Manjaji-Matsumoto)



S. brevirostris, UPVMI 917, 392.9 mm TL



Family Pristiophoridae

Pristiophorus lanae

Ebert & Wilms 2013

En Lana's Sawshark

C • Narrow and relatively long nostrum, with a pre-oral length 27.5–30.6% of TL, a pre-barbel length of 51.0–55.0% of pre-oral length • Barbels located closer to mouth than to rostral tip • No distinctive markings on light brown body with posterior margin of dorsal and caudal fins faintly yellowish

D Philippines

H Upper continental slopes

S 83 cm TL

R The species recently described on the basis of 7 preserved specimens collected from Philippines. The present



P. lanae, UPVMI 1648, 786.4 mm TL

specimen represents the first fresh coloration record of the species. The yellowish posterior margins of the dorsal

and caudal fins are possibly diagnostic of this species. Usually bycatch of trawlers and other fisheries operations

at depths of 229–593 m

(K. Koeda &

B. M. Manjaji-Matsumoto)



R. borneensis, UPVMI 468, 530.8 mm TL

Family Rhinobatidae

Rhinobatos borneensis

Last, Séret and Naylor 2016

Borneo Shovelnose Ray

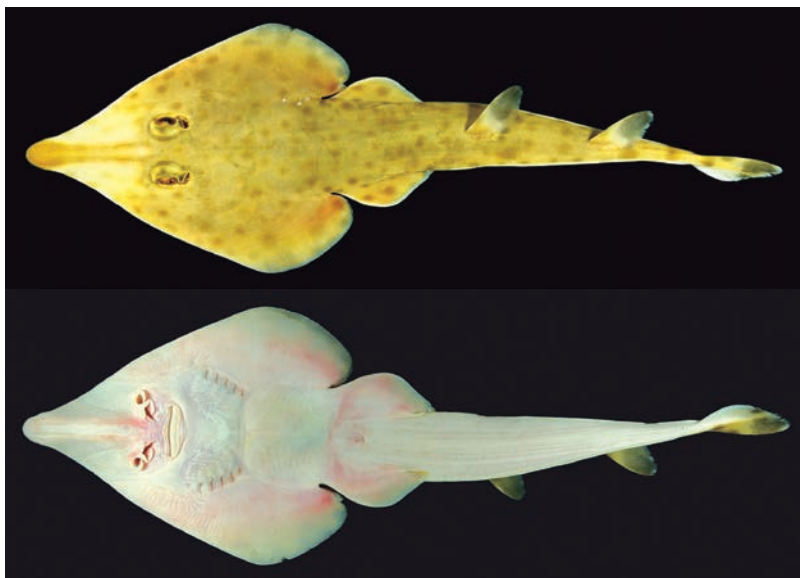
C • Snout tip not forming a knob • Disc wedge-shaped, anterior snout margin slightly concave • Dorsal-fin tip pointed • Body with diffuse pale yellowish blotches, without white spots; dorsal fins with central dusky blotches; young with ocellate markings

D Borneo and Philippines

H Demersal

S 90 cm TL

(B. M. Manjaji-Matsumoto)



R. whitei, UPVMI 576, 361.1 mm TL

Family Rhinobatidae

Rhinobatos whitei

Last, Corrigan & Naylor 2014

Philippine Guitarfish

C • Snout tip not forming a knob • Disc wedge-shaped, anterior snout margin moderately concave • Dorsal-fin tip narrowly rounded • Body with faint orange blotches, and indistinct pale spots; dorsal fins darker posteriorly

D Philippines

H Demersal

S 84 cm TL

(B. M. Manjaji-Matsumoto)

Family Rajidae

Okamejei sp.

Philippine Skate

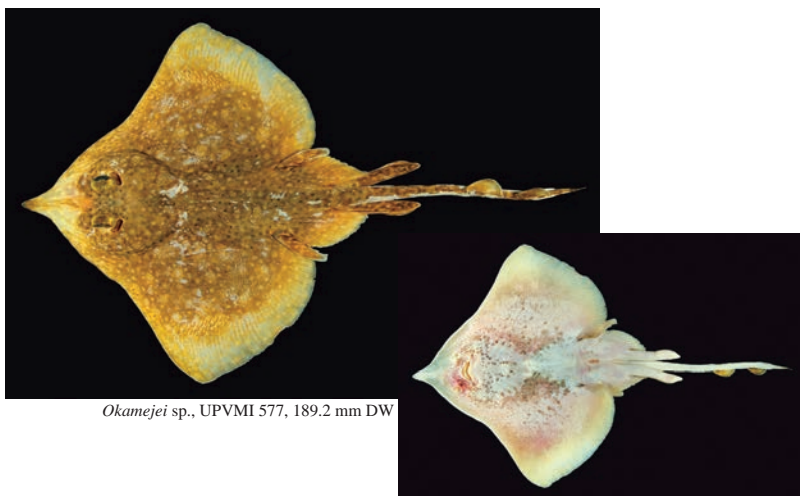
C • Snout broadly triangular • Pelvic fin divided into two distinct lobes • Dorsal surface brownish with pale posterior margins, faint pattern of pale yellowish blotches and spots over entire surface, and black spots dorsomedially • Ventral disc pale with dark brown spots and patches along the central part

D Philippines

H Demersal

S 19 cm DW

(B. M. Manjaji-Matsumoto)



Okamejei sp., UPVMI 577, 189.2 mm DW

Family Urolophidae

Urolophus aurantiacus
(Müller & Henle 1841)

En Sepia Stingray

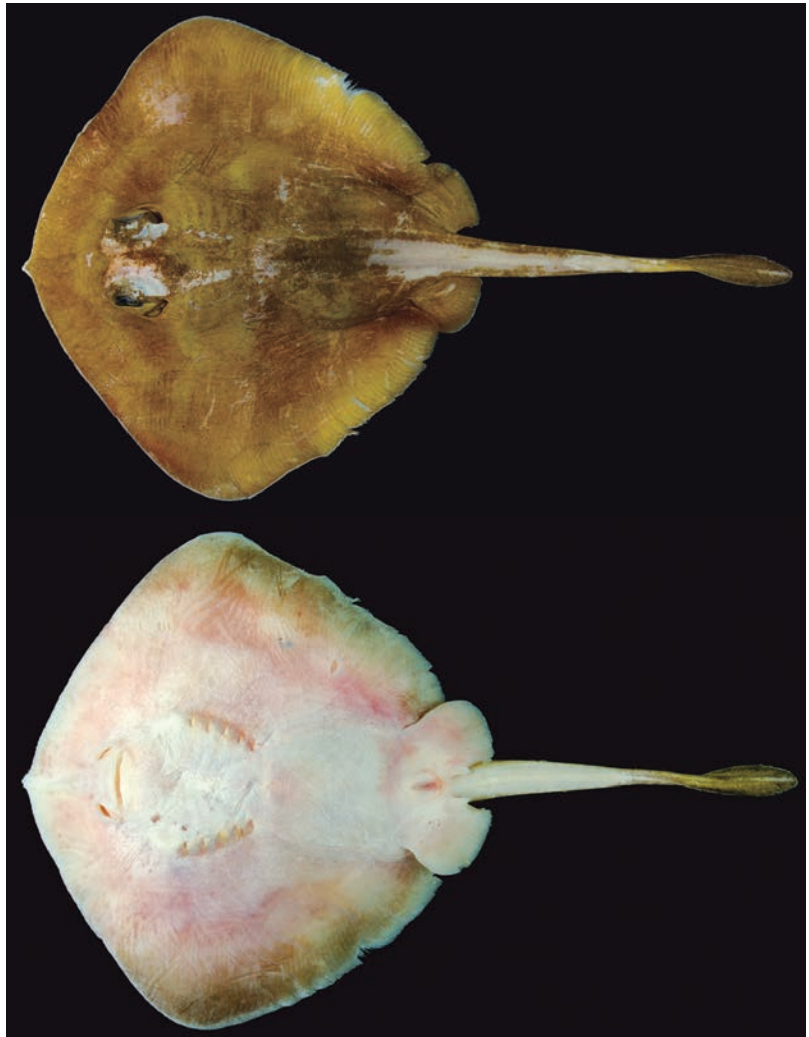
C • Disc shape subquadrangular, apices narrowly rounded • Dorsal fin absent • Tail with a large dorsal spine, and a short caudal fin • Dorsal surface plain reddish brown

D Northwestern Pacific (Japan to Philippines)

H Sandy and rocky bottoms of continental shelves

S 27 cm DW

(B. M. Manjaji-Matsumoto)



Family Dasyatidae

Himantura uarnak
(Gmelin 1789)

En Reticulate Whipray

C • Disc shape quadrangular • Central disc with 2 heart-shaped thorns • Dorsal surface with irregular dark spots and reticulations • Ventral disc pale with dark posterior margins

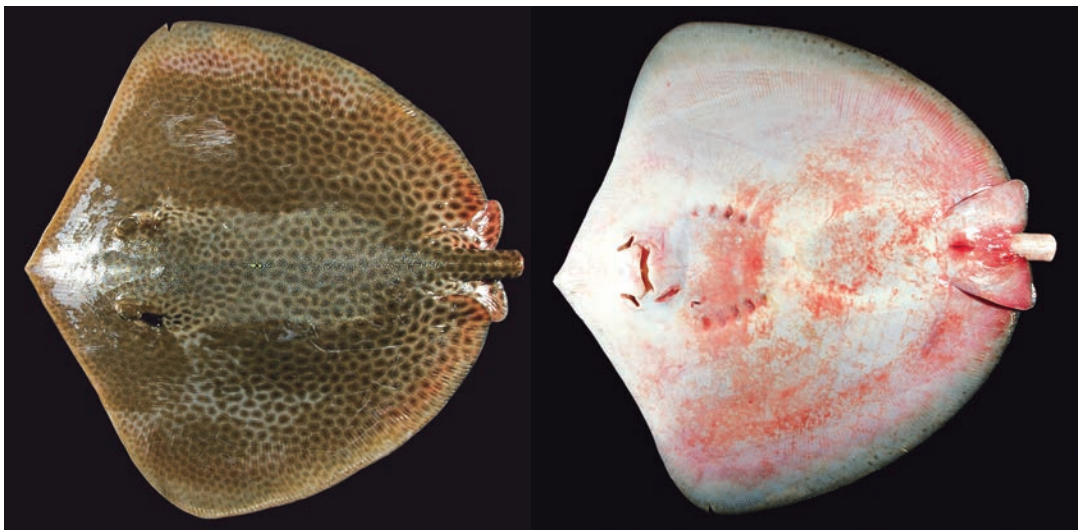
D Western Pacific (Philippines, Malaysia to northern Australia)

H Demersal on soft substrates; intertidal region to 50 m

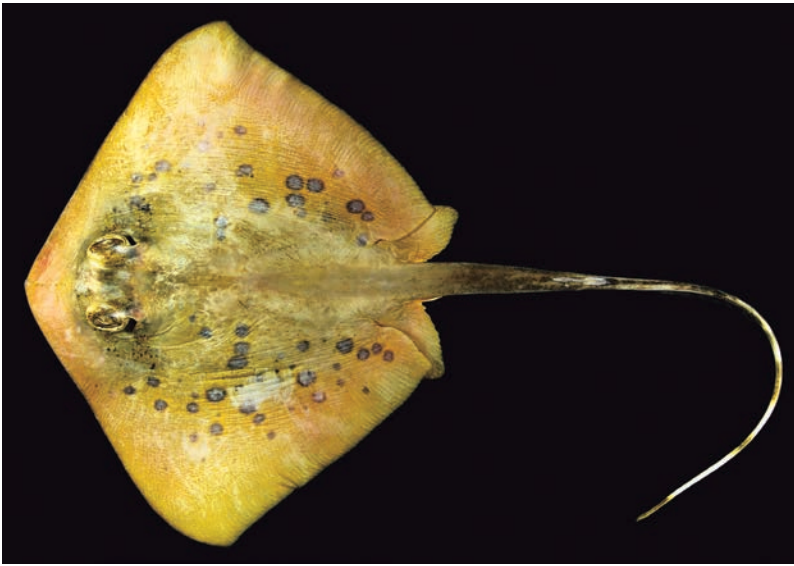
S 1.6 m DW, 4.5 m TL

(B. M. Manjaji-Matsumoto)

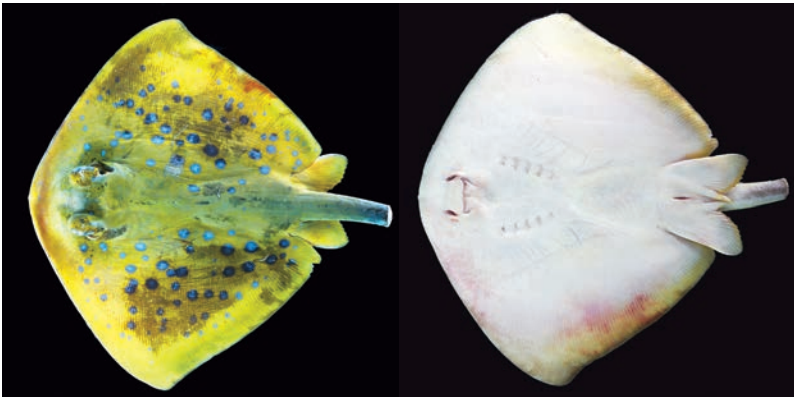
U. aurantiacus, KAUM-I. 62938, 125.0 mm DW



H. uarnak, UPVMI 627, 369.7 mm TL



N. orientalis, UPVMI 233, 221.1 mm DW



N. orientalis, UPVMI 1695, 256.5 mm DW

Family **Dasyatidae**

Neotrygon orientalis

Last, White & Séret 2016

Oriental Bluespotted Maskray

C ● Disc shape rhombic, straight to convex anteriorly ● Dorsal disc lacking denticles except for a single median row of thornlets on nape region ● Tail broad-based with dorsal and ventral skin folds ● Dorsal surface pale yellowish brown centrally with blue spots; blue spots medium-sized, irregularly spaced, with faint blue centres surrounded by darker blue, diffuse-edged outer rings; disc margin and pelvic fins translucent

D Southeast Asia (off Sumatra, Borneo to Philippines)

H Reef region; inshore to less than 100 m depth

S 38 cm DW

(B. M. Manjaji-Matsumoto)

Family **Dasyatidae**

Taeniura lymma

(Forsskål 1775)

Bluespotted Fantail Ray

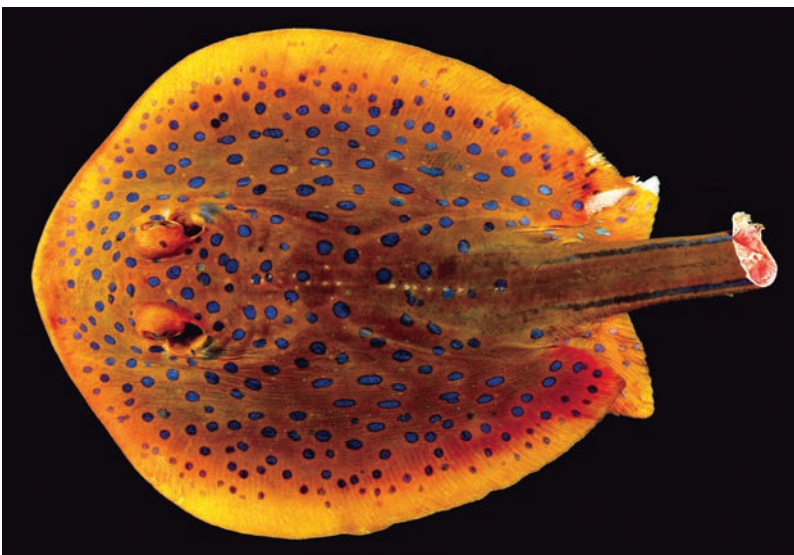
C ● Disc shape oval ● Dorsal disc smooth to granular, denticles minute ● Ventral skin fold on tail extending to tail tip ● Dorsal surface orangish brown with bright blue spots; tail with blue stripe on each side before sting; ventral fold darker than its base

D Indo-West Pacific (southern Africa to Vietnam and Papua New Guinea)

H Coral reefs; inshore to 20 m depth

S 35 cm DW, 75 cm TL

(B. M. Manjaji-Matsumoto)



T. lymma, UPVMI 234, 201.8 mm DW

Family Elopidae

Elops hawaiiensis

Regan 1909

En Hawaiian Ladyfish

- C** • 93–100 lateral-line scales
- 27–35 branchiostegal rays
- Gular plate located between arms of lower jaw
- Lower jaw projecting beyond snout

D Eastern Indian and western Pacific oceans (Andaman Sea to Hawaiian Is. and Tuamotu Is.)

H Pelagic; coastal waters and entering lagoons and estuaries

S 75 cm SL

(H. Hata)



E. hawaiiensis, UPVMI 471, 359.5 mm SL

Family Megalopidae

Megalops cyprinoides

(Broussonet 1782)

En Indo-Pacific Tarpon

- C** • 30–40 lateral-line scales
- 26–27 branchiostegal rays
- Gular plate located between arms of lower jaw
- Lower jaw projecting beyond snout
- Last dorsal-fin ray elongate and filamentous

D Indo-Pacific (eastern Africa to Japan and Society Is.)

H Pelagic; coastal waters and entering lagoons and estuaries

S 80 cm SL

(H. Hata)



M. cyprinoides, UPVMI 945, 208.5 mm SL

Family Moringuidae

Moringua abbreviata

(Bleeker 1863)

En Short Worm Eel

- C** • 102–111 vertebrae
- Head length 12–16% TL
- Body depth 1.7–2.5% TL
- Lower jaw beyond tip of snout
- Pectoral-fin length almost equal to snout length

D Western Pacific

H Bottoms in shallow waters

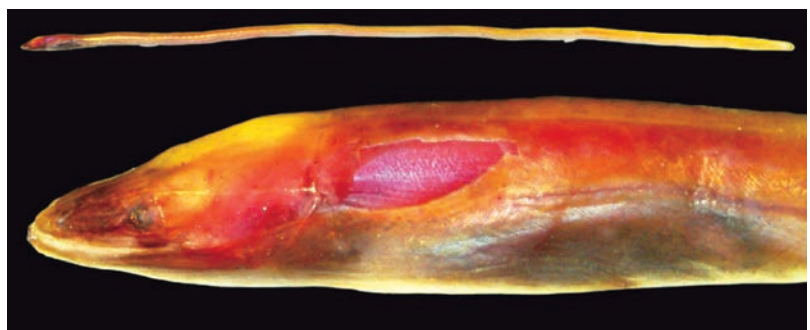
S 31 cm TL

R The genus, including *M. abbreviata*, is taxonomically confused and this identification is provisional

(Y. Hibino)



M. abbreviata, KAUM-I. 69440, 309.1 mm TL



M. ferruginea, KAUM-I. 69443, 254.9 mm TL

Family Moringuidae

Moringua ferruginea

Bliss 1883

En Rusty Spaghetti Eel

- C** • About 75 lateral-line pores anterior to anus
- 115–

- 127 vertebrae
- Head length 6.7–8.3% TL
- Body depth 1.6–2.0% TL
- Lower jaw beyond tip of snout
- Pectoral fin minute

D Indo-Pacific (east coast of Africa to Easter I.)

H Bottoms in shallow waters

S 40 cm TL

R The genus, including *M. ferruginea*, is taxonomically confused and this identification is provisional

(Y. Hibino)



Family Moringuidae

Moringua microchir

Bleeker 1853

En Shortfin Spaghetti Eel

C • 61–65 lateral-line pores anterior to anus • 105–113 vertebrae • Head length 7.1–9.1% TL • Body depth 2.0–2.8% TL • Lower jaw beyond tip of snout • Pectoral fin minute

D Indo-Pacific (east coast of Africa to Samoa)

H Lagoon, seagrass bed, and tidal pool

S 38 cm TL

(Y. Hibino)

M. microchir, KAUM-I. 63004, 382.4 mm TL



Family Moringuidae

Moringua sp.

En —

C • Head length 10% TL • Tail length 30% TL • Body depth 2.1% TL • Lower jaw beyond tip of snout • Pectoral fin minute

D Philippines

H Unknown

S 26 cm TL

R The genus is taxonomically confused

(Y. Hibino)

Moringua sp., KAUM-I. 80624, 262.3 mm TL

Family Muraenidae

Gymnothorax fimbriatus

(Bennett 1832)

En Fimbriated Moray

C • 128–142 vertebrae • Lower jaw recurved • Dorsal fin origin anterior to a level of gill opening • Head yellow (when alive), body pale brown with irregular dark brown spots and bars, usually oblique bands on dorsal fin • Median fins with pale whitish margin

D Indo-Pacific (Madagascar to French Polynesia)

H Lagoon and outer reefs in depths of less than 50 m

S 1 m TL

(Y. Hibino)

*G. fimbriatus*, UPVMI 795, 469.7 mm TL*G. pseudothyrsoides*, UPVMI 275, 405.0 mm TL*G. pseudothyrsoides*, KAUM-I. 56021, 475.9 mm TL

Family Muraenidae

Gymnothorax pseudothyrsoides

(Bleeker 1853)

En Highfin Moray

C • 122–135 vertebrae • 5-55-128 mean vertebral formula • Dorsal fin high, its origin anterior to gill opening • Head and body brown with yellowish reticulate lines, becoming unclear with growth and few faded, but brown spots remained

D Indo-West Pacific (Oman to Japan and Australia)

H Sandy and muddy bottoms of coastal and estuarine waters

S 86 cm TL

(Y. Hibino)

*G. pseudothyrsoides*, UPVMI 796, 553.1 mm TL



Gymnothorax sp., KAUM-I. 91755, 770.5 mm TL

Family Muraenidae

Gymnothorax sp.

En —

C • Dorsal fin relatively high, its origin anterior to gill opening • Teeth without serration • Head and body dark brown with pale brown irregular mottled pattern • Median fins without whitish margin

D South China Sea and Sulu Sea

H Muddy bottoms

S 77 cm TL

R It is also reported by Imamura (2013) as *G. pseudothyrsoides*

(Y. Hibino)



S. sathete, UPVMI 1618, 996.9 mm TL

Family Muraenidae

Strophidon sathete

(Hamilton 1822)

En Giant Estuarine Moray

C • 183–194 vertebrae • 10-78-196 mean vertebral formula • Tail about twice of head and trunk lengths • 3 or 4 inner teeth on mandible • Body uniformly brown

D Indo-West Pacific (east coast of Africa to Japan and New Caledonia)

H Muddy bottoms of coastal waters, mainly estuaries

S 3.8 m TL

(Y. Hibino)



Strophidon sp., UPVMI 1211, 1529.7 mm TL

Family Muraenidae

Strophidon sp.

En —

C • Head 2.7–3.0 times body depth at gill opening • Tail 1.5–1.7 times head and trunk lengths • 7 or 8 inner teeth on mandible • Body uniformly brown, except grayish head ventrolaterally

D Philippines

H Unknown

S 1.5 m TL

R Known from only 2 specimens from Panay I.

(Y. Hibino)

*M. thompsoni*, KAUM-I. 69442, 177.5 mm TL*M. thompsoni*, KAUM-I. 69445, 104.4 mm TL

Family Ophichthidae

Muraenichthys thompsoni

Jordan & Richardson 1908

En Thompson's Worm Eel

C • 128–139 vertebrae • 27–44–134 mean vertebral formula • Teeth on upper jaw relatively slender, uniserial or biserial anteriorly and uniserial posteriorly • Dorsal-fin origin usually anterior to mid-trunk • Pectoral fin absent

D Indo-West Pacific (Madagascar to Fiji), except for Red Sea

H Muddy and sandy bottoms of coastal waters

S 21 cm TL

R It can be distinguished from *M. gymnopterus* (Bleeker 1853) occurring in the Philippines by the shape of teeth (vs. blunt and large in *M. gymnopterus*) and larger eye (6.6–10% of HL vs. 3.2–7.1%)

(Y. Hibino)

*M. thompsoni*, KAUM-I. 69447, 130.8 mm TL*M. thompsoni*, KAUM-I. 80623, 229.4 mm TL



N. parvipectoralis, KAUM-I. 69441, 168.8 mm TL



Family Ophichthidae

Neenchelys parvipectoralis

Chu, Wu & Jin 1981

Mini-fin Worm Eel

C • 135–148 vertebrae • 20-55-143 mean vertebral formula • Head length 10–11% TL • Distance from dorsal-fin origin to a vertical through mid-anus 78–85% of trunk length • Extremely small pectoral fins present, shorter than snout

D East China Sea, South China Sea, and Sulu Sea

H Muddy and sandy bottoms from mouth of river to ca. 300 m depth

S 33 cm TL

R It can be distinguished from *N. buitendijki* Weber & de Beaufort 1916 occurring in Malaysia and Indonesia by the shorter pectoral fin (vs. equal or longer in *N. buitendijki*) and shorter head (vs. 11–14% TL)

(Y. Hibino)



N. parvipectoralis, UPVMI 1774, 157.4 mm TL

Family Ophichthidae

Ophichthus sp.

En—

C • 53–54 lateral-line pores anterior to anus • 150–153 vertebrae • Dorsal-fin origin located about a level of mid-pectoral fin • Teeth conical and short, biserial on upper jaw and biserial or partly triserial on vomer • Body darkish, median fins with dark margin

D Philippines

H Unknown

S 39 cm TL

R Known from only the present specimens from Panay I.

(Y. Hibino)



Ophichthus sp., KAUM-I. 80621, 393.7 mm TL

Family Ophichthidae

Pisodonophis boro

(Hamilton 1822)

En Rice-paddy Eel

C • 65 lateral-line pores anterior to anus • 171–180 vertebrae • Dorsal-fin origin well behind posterior end of pectoral fin • Teeth blunt and short, forming tooth patch on jaws and vomer • Body darkish, median fins usually with dark margin

D Indo-West Pacific (Pakistan to Australia)

H Muddy bottoms of coastal waters and estuaries, sometimes found rice fields

S 1.3 m TL

(Y. Hibino)



Ophichthus sp., KAUM-I. 69438, 288.4 mm TL



P. boro, UPVMI 1152, 864.7 mm TL



Family Ophichthidae

Pisodonophis cancrivorus
(Richardson 1848)

En Longfin Snake Eel

C • 53–60 lateral-line pores anterior to anus • 152–163 vertebrae • Dorsal-fin origin located about a level of mid-pectoral fin • Teeth blunt and short, forming tooth patch on jaws and vomer • Body darkish, median fins usually with dark margin

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Muddy and sandy bottoms shallower than ca. 100 m depth

S 1 m TL

R Common in Southeast Asia
(Y. Hibino)



P. cancrivorus, KAUM-I. 91804, 288.0 mm TL



Family Ophichthidae

Skythrenchelys zabra

Castle & McCosker 1999

En Angry Worm Eel

C • 33-57-119 mean vertebral formula • Dorsal-fin origin anterior to a level of anus • Teeth recurved, larger than eye • Mouth large • Pectoral fin absent

D Eastern Indian and western Pacific oceans (India to Taiwan and Australia)

H Muddy bottoms

S 41 cm TL

R Rare species but it was already known from Panay I.
(Y. Hibino)



S. zabra, KAUM-I. 80622, 257.0 mm TL

Family Ophichthidae
Yirrikala misolensis
(Günther 1872)

En Misol Snake Eel

C • 10-78-174 mean vertebral formula • Dorsal-fin extremely low, its origin posterior to a level of gill opening • Snout pointed • Head and body with numerous dark brown spots but obscured posteriorly, lateral-line pores whitish

D Western Pacific (Taiwan to Indonesia and Australia)

H Muddy bottoms

S 48 cm TL

(Y. Hibino)

Family Congridae

Ariosoma anago
(Temminck & Schlegel 1847)

En —

C • 51-54 lateral-line pores anterior to anus • 143 vertebrae • Upper lip with a groove • Pale brown vertical band on head • Anal fin with distinct black margin

D Western Pacific (Japan to Australia)

H Muddy and sandy bottoms of coastal waters

S 51 cm TL

R The present specimen represents the first record of *A. anago* from the Philippines

(Y. Hibino)



Y. misolensis, KAUM-I. 69438, 288.4 mm TL



Y. misolensis, KAUM-I. 80626, 329.0 mm TL



A. anago, KAUM-I. 80707, 297.0 mm TL



A. major, KAUM-I. 63002, 279.1 mm TL

Family Congridae

Ariosoma major

(Asano 1958)

En —

C • 50–53 lateral-line pores anterior to anus • 144–147 vertebrae • Upper lip with a groove • Pale brown vertical band on head • Anal fin with narrow darkish margin

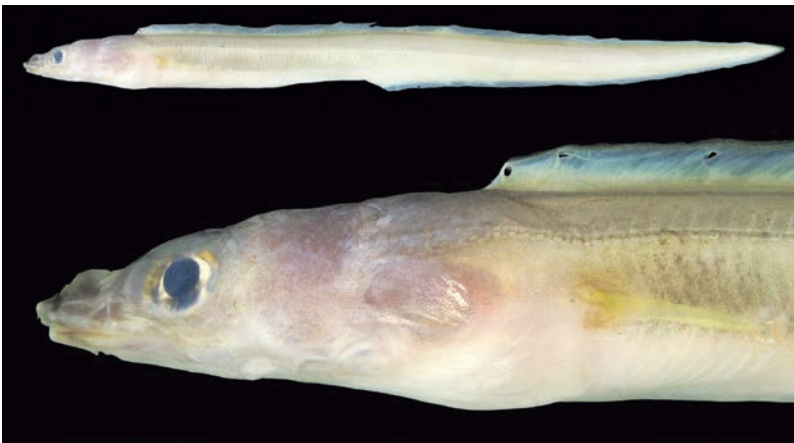
D Northwestern Pacific (Japan, Vietnam, and Philippines)

H Muddy and sandy bottoms of coastal waters

S 53 cm TL

R The present specimens represent the first records of *A. major* from the Philippines

(Y. Hibino)



A. major, KAUM-I. 63002, 279.1 mm TL

Family Congridae

Ariosoma meeki

(Jordan & Snyder 1900)

En —

C • 58–64 lateral-line pores anterior to anus • 149–159 vertebrae • Snout relatively robust • No postorbital pores • 2 dark spots along posterior margin of eye

D Northwestern Pacific (Japan, Vietnam, and Philippines)

H Muddy and sandy bottoms shallower than 160 m depth

S 60 cm TL

R The present specimen represents the first record of *A. meeki* from the Philippines

(Y. Hibino)



A. meeki, KAUM-I. 69448, 122.4 mm TL

Family Congridae
Ariosoma scheelei
 (Strömman 1896)
 En Scheele's Conger

C • 43–46 lateral-line pores anterior to anus • 110–117 vertebrae • Body short • Anal fin without distinct margin

D Indo-Pacific (east coast of Africa to Samoa)

H Sandy bottoms of coastal waters

S 20 cm TL

(Y. Hibino)



A. scheelei, KAUM-I. 56045, 134.5 mm TL



A. scheelei, UPVMI 330, 137.4 mm TL



A. scheelei, KAUM-I. 80628, 122.0 mm TL



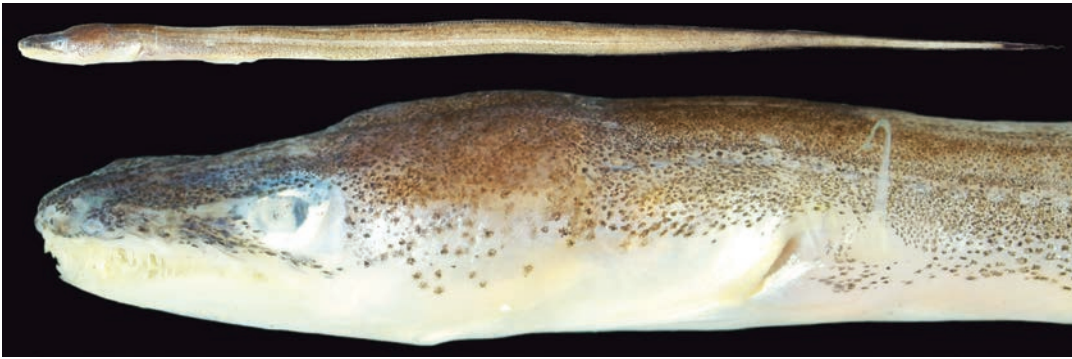
A. scheelei, KAUM-I. 69427, 107.4 mm TL



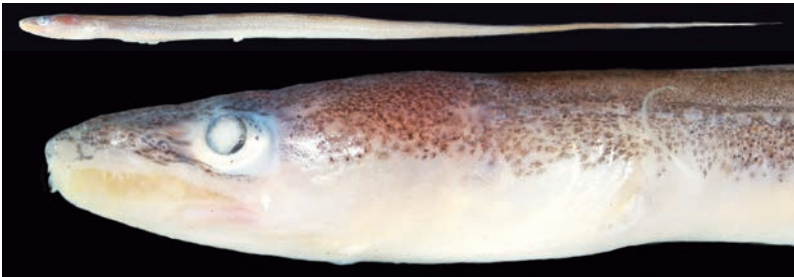
A. scheelei, KAUM-I. 69428, 93.0 mm TL



A. scheelei, KAUM-I. 69429, 93.1 mm TL



U. lepturus, KAUM-I. 69444, 154.3 mm TL



U. lepturus, KAUM-I. 69446, 179.7 mm TL

Family **Congridae**
Uroconger lepturus
 (Richardson 1848)
 En Slender Conger

C • 42–44 lateral-line pores anterior to anus • 203–206 vertebrae • Tail laterally compressed and extremely prolonged • Intermaxillary teeth visible when mouth closed

D Indo-Pacific (Red Sea to Hawaiian Is.)

H Muddy and sandy bottoms, coastal shallow area to 760 m
S 40 cm TL

R A species complex that may represent more than one species (Ho et al. 2015)

(Y. Hibino)



M. bagio, UPVMI 511, 938.1 mm TL

Family **Muraenesocidae**
Muraenesox bagio
 (Hamilton 1822)
 En Common Pike Conger

C • 47–59 dorsal-fin rays anterior to anus • 33–39 lateral-line pores anterior to anus • 128–141 vertebrae • Teeth large, extremely large triangle canine teeth on vomer • Body entirely silvery or golden color, dark brown dorsally and light brown ventrally

D Indo-Pacific (east coast of Africa to southern Yellow Sea and Samoa)

H Muddy and sandy bottoms of coastal waters
S 2 m TL

R More rare than *M. cinereus* and usually confused with the species at markets

(Y. Hibino)

Family Muraenesocidae

Muraenox cinereus

(Forsskål 1775)

En Daggertooth Pike Conger

C • 66–78 dorsal-fin rays anterior to anus • 39–47 lateral-line pores anterior to anus • 145–159 vertebrae • Teeth large, extremely large triangle canine teeth on vomer • Body entirely silvery or golden color, dark brown dorsally and light brown ventrally

D Indo-West Pacific (Red Sea to Japan and Indonesia)

H Muddy and sandy bottoms of coastal waters

S 1.5 m TL

R Common around Panay I. (Y. Hibino)

*M. cinereus*, UPVMI 1655, 667.4 mm TL

Family Clupeidae

Amblygaster leiogaster

(Valenciennes 1847)

En Smoothbelly Sardinella

C • 31–35 lower gill rakers on first gill arch • Body without spots • Distance from snout tip to dorsal-fin origin 49.4–54.5% SL

D Indo-West Pacific (Kenya to Japan and Australia)

H Pelagic; coastal waters

S 23 cm SL

(H. Hata)

*A. leiogaster*, KAUM-I. 80853, 168.6 mm SL



A. sirm, KAUM-I. 52636, 203.7 mm SL

Family Clupeidae

Amblygaster sirm

(Walbaum 1792)

En Spotted Sardinella

C • 33–43 lower gill rakers on first gill arch • Series of 10–20 blackish spots on lateral side of body • Distance from snout tip to dorsal-fin origin 47.2–50.7% SL

D Indo-Pacific (Tanzania to Japan and Kiribati)

H Pelagic; coastal waters

S 25 cm SL

(H. Hata)



A. sirm, KAUM-I. 62941, 155.0 mm SL

Family Clupeidae

Dussumieria acuta

Valenciennes 1847

En Rainbow Sardine

C • Body elongated, its depth 22–29% SL • 19–26 lower gill rakers on first gill arch • Posterior part of scales with numerous tiny radiating striae

D Indo-West Pacific (Persian Gulf to China and Philippines)

H Pelagic; coastal waters

S 20 cm SL

(H. Hata)



D. acuta, KAUM-I. 63032, 124.9 mm SL

Family Clupeidae

Dussumieria elopoides

Bleeker 1849

En Slender Rainbow Sardine

C • Body elongated, its depth 16–22% SL • 21–32 lower gill rakers on first gill arch • Posterior part of scales without striae

D Indo-West Pacific (Kenya to Japan and Tonga), eastern Mediterranean Sea

H Pelagic; coastal waters

S 20 cm SL

(H. Hata)



D. elopoides, UPVMI 603, 148.1 mm SL

Family Clupeidae

Escualosa thoracata

(Valenciennes 1847)

En White Sardine

C • Body deep, its depth 27–31% SL • Broad silver stripe, its width subequal to eye diameter, on flank

D Indo-West Pacific (Pakistan to Philippines and Papua New Guinea)

H Pelagic; coastal waters

S 10 cm SL

(H. Hata)



E. thoracata, UPVMI 157, 66.2 mm SL

Family Clupeidae

Herklotsichthys dispilonotus
(Bleeker 1852)

En Blacksaddle Herring

- C** • Black blotches on dorsum • Non-elongate, wing-like scales present beneath normal paired predorsal scales
- D** Western Pacific (Gulf of Thailand to Philippines and Indonesia)
- H** Pelagic; coastal waters
- S** 7 cm SL

(H. Hata)

*H. dispilonotus*, UPVMI 886, 72.2 mm SL

Family Clupeidae

Herklotsichthys quadrimaculatus
(Rüppell 1837)

En Bluestripe Herring

- C** • 30–36 lower gill rakers on first gill arch • Elongate wing-like scales underneath normal paired predorsal scales • Dorsum uniformly blackish without spots • Dorsal and caudal fins without black tips • 2 yellow blotches on posterior margin of gill opening • Single dark blue stripe running from upper end of gill opening to caudal-fin base
- D** Indo-West Pacific (eastern coast of Africa to Japan and Samoa)
- H** Pelagic; coastal waters
- S** 14 cm SL

(H. Hata)

*H. quadrimaculatus*, KAUM-I. 91974, 72.0 mm SL (preserved specimen)

Family Clupeidae

Sardinella gibbosa
(Bleeker 1849)

En Goldstripe Sardinella

- C** • 8 pelvic-fin rays • 45–59 lower gill rakers on first gill arch • Body scales with vertical striae not meeting at center and numerous perforations on posterior part
- D** Indo-West Pacific (Madagascar to Taiwan and Indonesia), except for Red Sea
- H** Pelagic; coastal waters
- S** 15 cm SL

(H. Hata)

*S. gibbosa*, KAUM-I. 80668, 110.5 mm SL*S. gibbosa*, KAUM-I. 80768, 103.3 mm SL



S. cf. longiceps, KAUM-I. 62924, 116.9 mm SL

Family Clupeidae

Sardinella cf. longiceps

Valenciennes 1847

En Indian Oil Sardine

C • 9 pelvic-fin rays • Head length ca. 30% SL • About 240 lower gill rakers in 17 cm SL specimen • Body depth less than 30% SL • Body dark blue dorsally, whitish silver ventrally • Black spot on upper part of opercle

D Philippines

H Pelagic; coastal waters

S 17 cm SL

R Abundant around Panay I.

(H. Hata)



S. cf. longiceps, UPVMI 280, 131.4 mm SL

Family Clupeidae

Sardinella sp.

En —

C • Black spot on dorsal-fin origin • Upper part of dorsal fin jet black • 54–55 lower gill rakers on first gill arch • Vertical striae on scales overlapping across center of scale

D Philippines

H Unknown

S 9 cm SL

R Although this species resembles *S. fijiense* in having the dorsal fin with the jet black upper part, the former differs from the latter by having fewer gill rakers (vs. 87–134 lower gill rakers on first gill arch in *S. fijiense*)

(H. Hata)



Sardinella sp., KAUM-I. 62932, 73.0 mm SL



Sardinella sp., KAUM-I. 80744, 84.4 mm SL

Family Clupeidae

Spratelloides delicatulus

(Bennett 1832)

En Delicate Round Herring

C • Body without silver stripe • Maxilla toothless • 35–41 lateral-line scales

D Indo-Pacific (South Africa to Japan and Society Is.); a single specimen collected from eastern Mediterranean Sea

H Pelagic; coastal waters

S 9 cm SL

(H. Hata)



S. delicatulus, KAUM-I. 62915, 40.0 mm SL

Family Clupeidae

Spratelloides gracilis

(Temminck & Schlegel 1842)

En Silver Stripe Round Herring

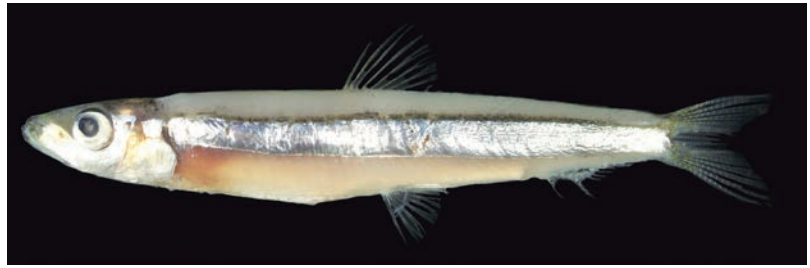
C • Body with silver stripe from eye to caudal-fin base • Maxilla with teeth • 42–48 lateral-line scales

D Indo-Pacific (Tanzania to Japan and Tuamotu Is.)

H Pelagic; coastal waters

S 10 cm SL

(H. Hata)

*S. gracilis*, KAUM-I. 62916, 45.1 mm SL

Family Engraulidae

Encrasicholina heteroloba

(Rüppell 1837)

En Devis' Anchovy

C • Posterior tip of upper jaw extending beyond posterior margin of preopercle • Dorsal and anal fins with 3 unbranched rays • 20–26 lower gill rakers on first gill arch

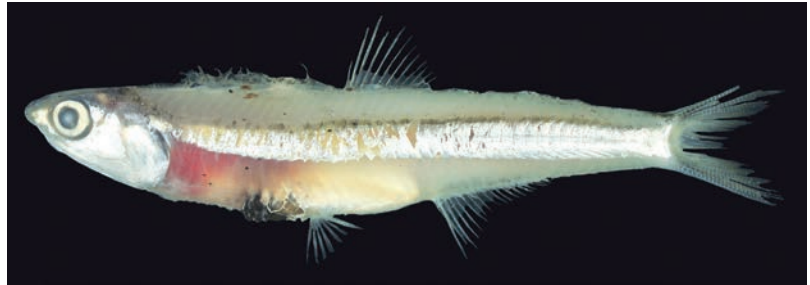
D Indo-West Pacific (Red Sea to Japan and Tonga)

H Pelagic; coastal waters

S 8 cm SL

R *Encrasicholina devisi*, previously treated as a valid name for this species, has been now regarded as a junior synonym of *E. heteroloba*; a species previously treated as *E. heteroloba* has been identified as *E. pseudoheteroloba* (see Hata & Motomura 2016)

(H. Hata)

*E. heteroloba*, KAUM-I. 63061, 76.7 mm SL

Family Engraulidae

Encrasicholina pseudoheteroloba

(Hardenberg 1933)

En Shorthead Anchovy

C • Posterior tip of upper jaw extending beyond posterior margin of preopercle • Dorsal and anal fins with 2 unbranched rays

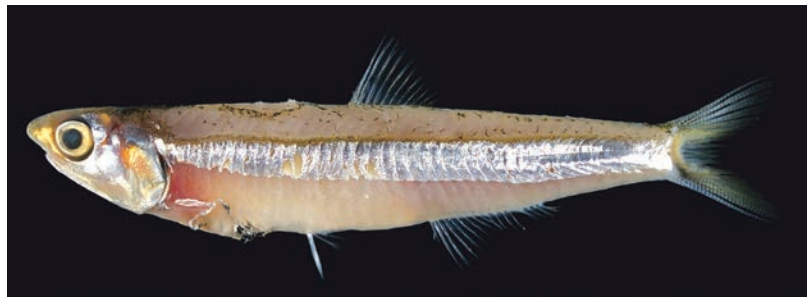
D Indo-West Pacific (Madagascar to Japan and Samoa)

H Pelagic; coastal waters

S 8 cm SL

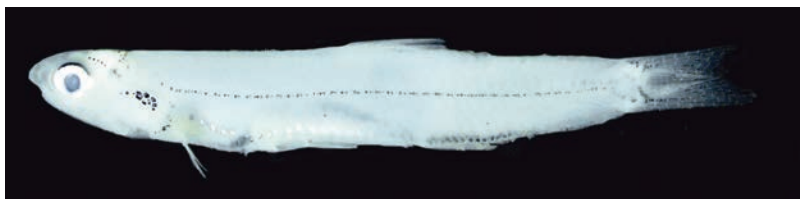
R Frequently landed at markets in July to August around Panay I.

(H. Hata)

*E. pseudoheteroloba*, UPVMI 548, 78.6 mm SL



E. punctifer, KAUM-I. 80647, 58.3 mm SL



E. punctifer, KAUM-I. 57169, 32.5 mm SL

Family Engraulidae

Encrasicholina punctifer

Fowler 1938

En Buccaneer Anchovy

C • Posterior tip of upper jaw not reaching to anterior margin of preopercle • Dorsal and anal fins with 2 unbranched rays • 34–44 total gill rakers on first gill arch

D Eastern Indian and Pacific oceans (Andaman Sea to Japan and French Polynesia)

H Pelagic; oceanic waters

S 10 cm SL

R Frequently landed at markets in November around Panay I.

(H. Hata)

Family Engraulidae

Engraulis japonica

Temminck & Schlegel 1846

En Japanese Anchovy

C • Body rather cylindrical • No pre- and post-pelvic scutes • Head and body blackish blue dorsally and silvery in adults

D Western Pacific (Sakhalin to Indonesia)

H Pelagic; coastal and oceanic waters

S 15 cm SL

(H. Hata)

Family Engraulidae

Stolephorus indicus

(van Hasselt 1823)

En Indian Anchovy

C • Posterior tip of upper jaw reaching to or extending slightly beyond anterior margin of preopercle • 20–26 lower gill rakers on first gill arch • Melanophores on post-temporal region and bases of dorsal and anal fins

D Indo-Pacific (South Africa to Japan and French Polynesia)

H Pelagic; coastal and oceanic waters

S 15 cm SL

(H. Hata)



S. indicus, KAUM-I. 62917, 117.6 mm SL



S. indicus, KAUM-I. 80756, 75.9 mm SL

Family Engraulidae

Stolephorus waitei

Jordan & Seale 1926

En Spotty-face Anchovy

C • Posterior tip of upper jaw extending beyond posterior margin of preopercle • Posterior border of preopercle convex • Black spots on tip of lower jaw and below eye

D Eastern Indian and western Pacific oceans (India to Philippines and Australia)

H Pelagic; coastal and oceanic waters

S 9 cm SL

(H. Hata)

*S. waitei*, KAUM-I. 62920, 59.0 mm SL

Family Engraulidae

Stolephorus sp.

En—

C • Posterior tip of upper jaw extending beyond posterior margin of preopercle • Posterior border of preopercle convex • No scute on dorsal-fin origin • Paired black longitudinal stripes on dorsum, anterior to dorsal-fin origin

D Philippines

H Unknown

S 9 cm SL

R Although this species resembles *S. commersonii* Lacepède 1803, the former is distinguished from the latter by having 10 transverse scales (scale rows between origin of dorsal fin and midline of ventral surface; vs. 8 in *S. commersonii*)

(H. Hata)

*Stolephorus* sp., KAUM-I. 80755, 85.2 mm SL*Stolephorus* sp., KAUM-I. 80770, 76.2 mm SL



C. dorab, UPVMI 1721, 294.7 mm SL



C. dorab, UPVMI 1720, 290.0 mm SL



C. dorab, UPVMI 171, 209.4 mm SL



C. chanos, UPVMI 560, 245.5 mm SL



G. abbreviatus, KAUM-I. 62993, 215.9 mm SL

Family Chirocentridae

Chirocentrus dorab

(Forsskål 1775)

En Dorab Wolf-herring

C • 16–18 dorsal-fin rays • 29–36 anal-fin rays • 13–16 pectoral-fin rays • 6 pelvic-fin rays • Black marking on upper part of dorsal fin • Pectoral fin relatively short, its length 11–13% of SL

D Indo-West Pacific (East Africa and Red Sea to Japan, Solomon Is., and Australia)

H Inshore waters

S 1 m SL

R Important fishery targets; caught with gillnets, seines, shallow trawls, and traps

(S. Ishikawa)

Family Chanidae

Chanos chanos

(Forsskål 1775)

En Milkfish

C • 13–17 dorsal-fin rays • 8–11 anal-fin rays • 15–17 pectoral-fin rays • 75–90 lateral-line scales • Dorsal fin at midpoint of body • Eye covered with adipose tissue • Caudal fin large, deeply forked

D Indo-Pacific (East Africa and Red Sea to Japan, Hawaiian Is., and Australia), eastern Pacific (Panama); Mediterranean Sea (immigrant)

H Fresh, brackish, and coastal waters

S 1.5 m TL

R Reared at fish ponds; marketed fresh, dried, canned, and smoked

(R. S. Cruz)

Family Gonorynchidae

Gonorynchus abbreviatus

Temminck & Schlegel 1846

En Bighead Beaked Sandfish

C • Body cylindrical • Snout long, pointed • Single barbel at lower jaw • Body brown, tip of each fin black

D Northwestern Pacific (Japan to Philippines)

H Sandy and muddy bottoms at depths of 50–100 m

S 40 cm SL

(Y. Haraguchi)

Family Ariidae

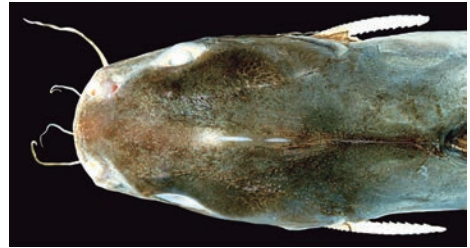
Arius arenarius

(Müller & Troschel 1849)

En Sand Catfish

C • 3 pairs of barbels • Dorsal- and pectoral-fin spines not especially thick and granulated • Teeth on palate (= roof of mouth) small conical with somewhat sharp tips • 2 tooth patches on each side of palate • Anterior patch small and round, posterior one large and ovate-triangular
D Western Pacific (China, Vietnam, and Philippines)
H Coastal inshore waters
S 30 cm SL

(S. Kimura)

*A. arenarius*, UPVMI 605, 181.1 mm SL

Family Ariidae

Arius disper

Herre 1926

En Fleshysnout Catfish

C • 3 pairs of barbels • Maxillary barbel flattened • Snout broadly rounded and fleshy • Teeth on palate granular with sharp or blunt tips • Single tooth patch on each side of palate; small, ovate or ovate-triangular
D Western Pacific (Taiwan and Philippines)
H Coastal inshore waters, estuaries, and brackish water lagoons
S 35 cm SL

(S. Kimura)

*A. disper*, UPVMI 606, 171.3 mm SL

Family Ariidae

Plicofollis argyropleuron

(Valenciennes 1840)

En Longsnouted Catfish

C • 3 pairs of barbels • Head long and depressed • Teeth on palate granular with blunt tips • 2 tooth patches on each side of palate longitudinally arranged; anterior patch small, often edentate; posterior patch oblong
D Eastern Indian and western Pacific oceans (India to Philippines and Australia)
H Coastal waters and estuaries
S 45 cm SL

(S. Kimura)

*P. argyropleuron*, UPVMI 926, 213.8 mm SL

*P. canius*, UPVMI 456, 453.9 mm SL*P. lineatus*, UPVMI 569, 205.6 mm SL

Family Plotosidae

Plotosus canius

Hamilton 1822

En Gray Eel-catfish

C • I, 4–5 dorsal-fin rays • 130–140 dorsal-procurrent-caudal-fin rays • Nasal and maxillary barbels long, reaching at least to pectoral-fin base • Head and body uniformly dark brown, except for whitish abdomen

D Eastern Indian and western Pacific oceans (India to New Guinea)

H Lagoons and estuaries

S 1.5 m SL

(K. Kawama)

Family Plotosidae

Plotosus lineatus

(Thunberg 1787)

En Striped Eel-catfish

C • I, 4 dorsal-fin rays • 89–111 dorsal-procurrent-caudal-fin rays • 25–31 gill rakers • Head and body brown, becoming cream or white ventrally • 2 to 3 narrow pale yellow longitudinal stripes on body, 2 extending onto head

D Indo-West Pacific (Red Sea to Japan and Samoa)

H Reefs, open coastal areas, and estuaries

S 32 cm TL

(K. Kawama)

*S. isarankurai*, UPVMI 512, 123.3 mm SL

Family Synodontidae

Saurida isarankurai

Shindo & Yamada 1972

En Shortjaw Lizardfish

C • Snout short, lower jaw slightly projecting beyond upper jaw when mouth closed • Pectoral fin long, reaching beyond a line from anterior margin of dorsal fin to anterior base of pelvic fin • Scales somewhat deciduous • Lower lobe of caudal fin slightly longer than upper lobe • Body dusky above lateral line, whitish below • Pectoral fin blackish

D South China Sea, Philippines, and southwestern Pacific

H Sandy and muddy bottoms, usually in deeper water, 65–300 m

S 12 cm SL

R *Saurida isarankurai* is distinct from all other Indo-West Pacific species of *Saurida* in having the lower jaw slightly longer than upper, visible from above in some specimens when mouth is closed, only 1–2 rows of teeth on the tongue, and lower lobe of the caudal fin slightly longer than the upper lobe

(B. C. Russell)

Family Synodontidae

Saurida nebulosa

Valenciennes 1849

En Clouded Lizardfish

C • Pectoral fin very short, not reaching near a line from anterior margin of dorsal fin to anterior base of pelvic fin • Body brownish on back, with 7–8 indefinite darker brownish bars extending to just below lateral line • Silvery white below lateral line • Dorsal and caudal fins with indistinct dusky bars

D Indo-West Pacific

H Usually associated with sandy areas close to coral and rocky reefs in shallow water

S 17 cm SL

R This species is easily confused with another reef associated species, *S. gracilis* (Quoy & Gaimard 1824), but has shorter pectoral fins, and tends to lack dark bars on the pelvic and anal fins of *S. gracilis*. Further taxonomic studies are needed for this group

(B. C. Russell)

*S. nebulosa*, UPVMI 1626, 114.5 mm SL

Family Synodontidae

Saurida sp. 1

En —

C • Pectoral fin very short, not reaching near a line from anterior margin of dorsal fin to anterior base of pelvic fin • Scales somewhat deciduous • Body dusky above lateral line, silvery below • Caudal fin dusky, lower lobe of fin blackish

D Philippines**H** Sandy and muddy bottom**S** 7 cm SL

R Further taxonomic studies are needed for this group

(B. C. Russell)

*Saurida* sp. 1, UPVMI 320, 65.2 mm SL

Family Synodontidae

Saurida sp. 2

En —

C • Pectoral fin short, not quite reaching a line from anterior margin of dorsal fin to anterior base of pelvic fin • Body brownish above lateral line, becoming lighter below, ventral surface silvery • Posterior margin and lower lobe of caudal fin dusky

D Philippines**H** Sandy and muddy bottom**S** 21 cm SL

R Further taxonomic studies are needed for this group

(B. C. Russell)

*Saurida* sp. 2, UPVMI 187, 207.2 mm SL



Saurida sp. 3, UPVMI 504, 131.3 mm SL

Family Synodontidae

Saurida sp. 3

En —

C • Pectoral fin short, not quite reaching a line from anterior margin of dorsal fin to anterior base of pelvic fin • Body brownish above lateral line, becoming lighter below, ventral surface silvery • Upper edge of caudal fin with 5–6 black spots, posterior margin and lower lobe of caudal fin dusky

D Philippines

H Sandy and muddy bottom

S 13 cm SL

R Further taxonomic studies are needed for this group

(B. C. Russell)

Family Synodontidae

Synodus macrops

Tanaka 1917

En Triple Cross Lizardfish



S. macrops, KAUM-I. 62996, 113.4 mm SL

C • Snout moderately long, sharply pointed • Pectoral fins reaching a line from dorsal-fin origin to anterior base of pelvic fins • Back greyish brown above lateral line, 3 conspicuous lateral dark X-shaped patches with smaller, poorly defined dark patches between on sides of body

D Western Pacific (Japan to Australia)

H Sandy and muddy bottoms, in deeper water, 35–200 m

S 11 cm SL

(B. C. Russell)



S. oculus, KAUM-I. 63038, 182.2 mm SL

Family Synodontidae

Synodus oculus

Cressey 1981

En Large-eye Lizardfish

C • Snout short, eye large • Scales deciduous • Head reddish, with 2 bluish bands behind eye extending obliquely down onto preopercle which is also bluish • Upper part of body reddish with 7–8 darker reddish bars extending to just below lateral line • Flanks and ventral surface silvery pink • Base of pelvic fins bright lemon yellow

D Indo-West Pacific

H Sandy and muddy bottoms in depths to about 100 m

S 18 cm SL

R This species is provisionally identified as *S. oculus* but further work is needed to confirm its identity

(B. C. Russell)



S. oculus, UPVMI 503, 123.2 mm SL

Family Synodontidae

Synodus tectus

Cressey 1981

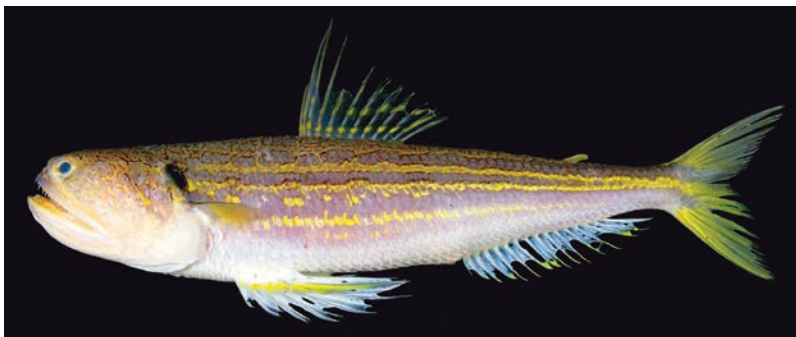
En Tectus Lizardfish

C • Snout sharply pointed
 • Pectoral fins reaching a line from dorsal-fin origin to anterior base of pelvic fins
 • Head pinkish, prominent pigment spot at upper distal corner of operculum
 • Greenish pink on back, with 7–8 darker brownish saddles on back, these forming semi-circular elongate spots below lateral line

D Western Pacific Ocean**H** Sandy or muddy bottoms, in depths to about 85 m**S** 18 cm SL

R This species is very similar to *S. hoshinonis* Tanaka 1917 and further taxonomic work is required to determine the validity of these two species

(B. C. Russell)

*S. tectus*, UPVMI 1275, 126.6 mm SL*T. trachinus*, KAUM-I. 51654, 185.7 mm SL

Family Synodontidae

Trachinocephalus trachinus

(Temminck & Schlegel 1846)

En Blunt Nose Lizardfish

C • Snout blunt and reduced, always shorter than eye diameter
 • Lower jaw extending beyond upper jaw with strongly oblique mouth
 • Pectoral fin and distal portions of dorsal, caudal and anal fins pale to dark yellow
 • Body with yellow and bluish stripes, all bordered by a narrow dark brownish line especially on back and sides, ventral surface pale
 • Oval black spot above dorsal edge of operculum
 • Conspicuous dark blotch below eye, extending from premaxilla to chin

D Indo-West Pacific**H** Sandy and muddy bottoms in estuaries and inshore waters to 200 m**S** 23 cm SL

R This species has previously been identified as *T. myops* (Forster 1801). However, Polanco et al (2016) have shown that species is restricted to the Atlantic Ocean and *T. trachinus* is the valid name for the widely distributed Indo-West Pacific species

(B. C. Russell)

Family Paralepididae

Lestolepis japonica

(Tanaka 1908)

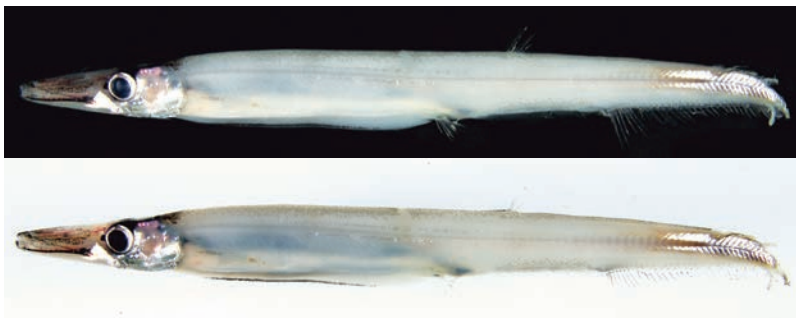
En Japanese Barracudina

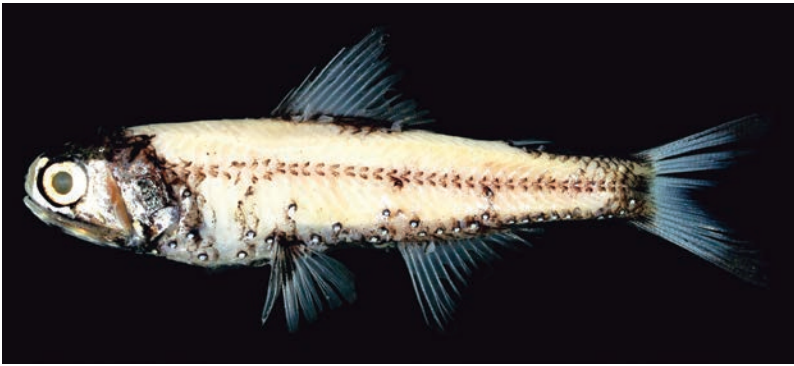
C • Small black papilla in front of eye
 • Dorsal fin originating above midway between pelvic-fin base and anal-fin origin
 • 36–40 anal-fin rays

D Eastern Indian and western Pacific oceans (northwestern Australia; Japan to South China Sea)

H Deep-sea, 240–732 m depth**S** 17 cm TL

(N. Nakayama)

*L. japonica*, KAUM-I. 57182, 158+ mm SL



Family Myctophidae

Diaphus chrysorhynchus

Gilbert & Cramer 1897

Golden-nosed Lanternfish

- 4 precaudal luminous organ (Prc) ● Tips of caudal fin prominently black
 - Antorbital luminous organ (Ant) present along anterodorsal margin of eye
 - Ventronasal luminous organ (Vn) long, extending posteroventrally beyond vertical through midorbit
 - Body scales highly deciduous
- Eastern Indian and Pacific oceans (Western Australia to Japan, Hawaiian Is., and New Caledonia)

Mesopelagic, depth range ≤190 m at night, 418–600 m in daylight

8 cm SL

(N. Nakayama)



D. chrysorhynchus, KAUM-I. 57183, 69.2 mm SL



D. fragilis, KAUM-I. 51669, 100.4 mm SL

Family Myctophidae

Diaphus fragilis

Tåning 1928

Fragile Lanternfish

- 4 precaudal luminous organ (Prc) ● Caudal fin uniformly pale
- Antorbital luminous organ (Ant) present along anterodorsal margin of eye
- Ventronasal luminous organ (Vn) short, its posteroventral margin not reaching vertical through midorbit
- Body scales highly deciduous

Worldwide in tropical and temperate waters

Mesopelagic; depth range ≤125 m at night, 375–750 m in daylight

10 cm SL

(N. Nakayama)



D. fragilis, KAUM-I. 80787, 71.7 mm SL

Family Myctophidae

Myctophum asperum

Richardson 1845

En Prickly Lanternfish

C • 2 precaudal luminous organ (Prc) • Body uniformly black • Body scales ctenoid and not deciduous • Total 14–18 gill rakers on first arch

D Tropical and temperate waters of the world oceans

H Mesopelagic; depth range ≤125 m at night, 425–750 m in daylight

S 7 cm SL

(N. Nakayama)

*M. asperum*, KAUM-I. 57188, 48.9 mm SL

Family Myctophidae

Symbolophorus evermanni

(Gilbert 1905)

En Evermann's Lanternfish

C • 2 precaudal luminous organ (Prc) • Oral cavity pale • Body scales highly deciduous

D Indian and Pacific oceans (eastern Africa to Panama and Ecuador)

H Mesopelagic; depth range ≤125 m at night, 600–1150 m in daylight

S 8 cm SL

(N. Nakayama)

*M. asperum*, KAUM-I. 80870, 51.9 mm SL

Family Myctophidae

Symbolophorus sp.

En—

C • 2 precaudal luminous organ (Prc) • Oral cavity black • Body scales highly deciduous

D Philippines

H Probably mesopelagic; depth unknown

S 8 cm SL

R Similar to *S. evermanni* (Gilbert 1905), but readily differs in having a black oral cavity (vs. pale); further studies are necessary when more specimens become available

(N. Nakayama)

*S. evermanni*, KAUM-I. 80704, 76.3 mm SL*Symbolophorus* sp., KAUM-I. 80845, 75.3 mm SL



Bregmaceros sp. 1, KAUM-I. 69463, 61.4 mm SL

Family Bregmacerotidae

***Bregmaceros* sp. 1**

En —

C • Numerous black melanophores densely scattered over head and body • I-48 dorsal-fin rays • 52 anal-fin rays

D Philippines

H Mesopelagic; depth unknown

S 6 cm SL

R Taxonomy of *Bregmaceros* has been controversial, with many species still awaiting description; the genus needs taxonomic revision (N. Nakayama)



Bregmaceros sp. 2, UPVMI 179, 33.6 mm SL

Family Bregmacerotidae

***Bregmaceros* sp. 2**

En —

C • Small black melanophores serially arranged along dorsal contour of body • Lower 2/3–3/4 of body immaculate • I-44 dorsal-fin rays • 44–46 anal-fin rays

D Philippines

H Mesopelagic; depth unknown

S 3 cm SL

(N. Nakayama)



C. argus, UPVMI 1685, 248+ mm TL

Family Macrouridae

Coelorinchus argus

Weber 1913

En Eyespot Grenadier

C • Snout short, acutely pointed • Underside of head completely naked • Large black ocellus above pectoral-fin base

D Philippines and Indonesia

H Benthopelagic; 247–538 m depth

S 25 cm TL

(N. Nakayama)



C. macrorhynchus, UPVMI 1506, 776.0 mm TL

Family Macrouridae

Coelorinchus macrorhynchus

Smith & Radcliffe 1912

En Bigsnout Whiptail

C • Snout long, acutely pointed • Underside of head completely scaled • Body uniformly dark

D Philippines and Australia (both western and eastern coasts)

H Benthopelagic; 329–1175 m depth

S 78 cm TL

(N. Nakayama)

Family Ophidiidae

Hoplobrotula armata

(Temminck & Schlegel 1846)

En Armored Cusk

C • 85–90 dorsal-fin rays • Sensory pore just above anterior nostril • Posterior tip of pelvic fin not extending beyond head

D Western Pacific (Japan to Australia)

H Sandy bottoms in depths of 70–440 m

S 70 cm SL

R Not common around Panay I. The present specimen was caught by a hand line at a depth of 150 m or deeper

(U. B. Alama)

*H. armata*, UPVMI 9504, 439.7 mm SL (preserved specimen)

Family Ophidiidae

Ophidion muraenolepis

Günther 1880

En Blackedge Cusk

C • Body scales elongate, arranged in basket-weave pattern • Pelvic fin present, originating blow eye • Dorsal fin edged with black

D Eastern Indian and Pacific oceans (Western Australia to Japan and Hawaiian Is.)

H Benthopelagic; depth range 80–320 m

S 20 cm SL

R A senior synonym of *O. asiro* (Jordan & Fowler 1902) (see Nielsen et al. 1999)

(N. Nakayama)

*O. muraenolepis*, KAUM-I. 52608, 161.9 mm SL

Family Carapidae

Encheliophis homei

(Richardson 1846)

En Silver Pearlfish

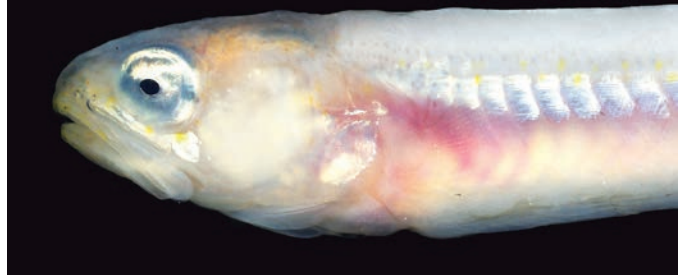
C • 17–21 pectoral-fin rays • No pelvic fin • 16–19 abdominal vertebrae

D Indo-Pacific (Madagascar to Japan and Society Is.)

H Commensal in sea cucumbers

S 19 cm TL

(T. Inaba)

*E. homei*, KAUM-I. 56079, 117.9 mm TL

Family Antennariidae

Antennarius hispidus

(Bloch & Schneider 1801)

En Hispid Frogfish

C • 10–11 pectoral-fin rays • 9 caudal-fin rays • Esca with numerous filaments • Gill opening located below pectoral fin

D Indo-West Pacific (east coast of Africa to Japan and Fiji)

H Sandy or muddy bottoms

S 15 cm SL

(T. Yoshida)

*A. hispidus*, KAUM-I. 69408, 39.5 mm SL



A. striatus, KAUM-I. 56096, 55.1 mm SL

Family Antennariidae

Antennarius striatus

(Shaw 1794)

En Striated Frogfish

C ● 9–12 pectoral-fin rays ● 9 caudal-fin rays ● Esca with 2–7 worm-like appendages ● Gill opening located below pectoral fin

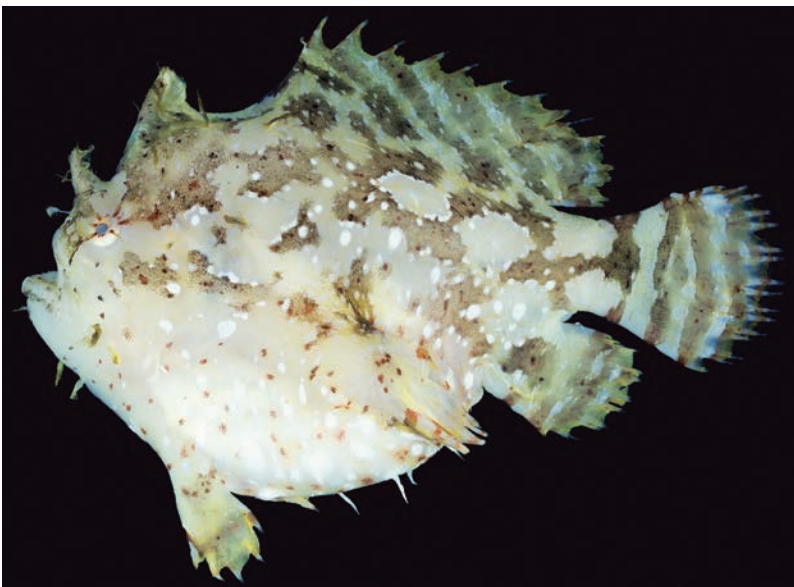
D Tropical Atlantic Ocean and Indo-Pacific

H Sandy or muddy bottoms

S 16 cm SL

R Common around Panay I., but rarely found at markets

(T. Yoshida)



H. histrio, UPVMI 1281, 45.9 mm SL

Family Antennariidae

Histrio histrio

(Linnaeus 1758)

En Sargassum Frogfish

C ● 9–11 pectoral-fin rays ● 7 caudal-fin rays ● Body smooth with skin flaps

D Temperate to tropical waters of world, except central and eastern Pacific

H Drifting with floating seaweeds

S 14 cm SL

R Common around Panay I., but rarely found at markets

(T. Yoshida)



H. stellata, UPVMI 2098, 152.3 mm SL (preserved specimen)

Family Ogocephalidae

Halieutaea stellata

(Vahl 1979)

En Batfish

C ● Body disc-shaped with pointed tubercles on dorsal side and margins ● Body reddish, mottled with dark blotches on dorsal side ● 4–5 dorsal-fin rays ● 4 anal-fin rays ● 12–14 pectoral-fin rays

D Eastern Indian and Pacific oceans (Western Australia to Japan and French Polynesia)

H Sandy and muddy bottoms in depths of 50–400 m

S 30 cm TL

R Common around Panay I.

(A. M. T. Guzman)

Family Berycidae

Centroberyx druzhinini

(Busakhin 1981)

En Flathead Alfonsino

C • 5–7 dorsal-fin spines
 • Body oval, strongly compressed laterally • No spines on lacrimal • Anal-fin base length slightly shorter than dorsal-fin base length • Body reddish dorsally, pinkish silver ventrally

D Western Indian Ocean (Madagascar to Saya-de-Malha Bank) and western Pacific Ocean (Japan to South China Sea)

H Rocky reefs in depths of 100–300 m

S 30 cm SL

(Y. Haraguchi)

*C. druzhinini*, UPVMI 797, 168.3 mm SL

Family Holocentridae

Myripristis amaena

(Castelnau 1873)

En Brick Soldierfish

C • Blackish area on opercular flap extending under opercular spines • Upper part of eye black • 12–13 anal-fin soft rays • Body silver in juveniles and reddish in adults

D Pacific Ocean (Japan to Pitcairn Is.)

H Hiding in caves and beneath ledges

S 26 cm TL

(T. Inaba)

*M. amaena*, KAUM-I. 80862, 36.2 mm SL

Family Holocentridae

Myripristis chryseres

Jordan & Evermann 1903

En Yellowfin Soldierfish

C • All fins, except for pectoral fins, bright yellow • No scales on pectoral-fin axil • Lower jaw projecting

D Indo-Pacific (eastern coast of Africa to Hawaiian Is. and Samoa)

H Rocky reefs deeper than 30 m depth; rarely found shallower waters

S 20 cm SL

R Rarely marketed; nocturnal
(T. Inaba)

*M. chryseres*, UPVMI 703, 80861, 177.1 mm SL



M. hexagona, KAUM-I. 80861, 71.5 mm SL

Family Holocentridae

Myripristis hexagona

(Lacepède 1802)

En Doubletooth Soldierfish

C • Pectoral-fin axil with small scales • Lower jaw with 2 pairs of tooth patches in adults, a pair of tooth patches in juveniles

D Indo-West Pacific (East Africa to Japan, Australia, and Samoa)

H Sheltered coastal and offshore reefs in depths of 3–40 m

S 20 cm TL

(T. Inaba)



O. japonicus, KAUM-I. 62945, 129.1 mm SL

Family Holocentridae

Ostichthys japonicus

(Cuvier 1829)

En Japanese Solderfish

C • XII, 12–14 dorsal-fin rays • IV, 10–12 anal-fin rays • 16–17 pectoral-fin rays • 5 preopercular scale rows • 28–30 lateral-line scales • 9–10 prepelvic scales • Height of suborbital depth 2.4–3.3 in eye diameter • Penultimate dorsal-fin spine length 0.7–1.0 in last dorsal-fin spine

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Australia)

H Deepwaters in depths of 90–700 m

S 41 cm TL

R The present specimens represent the first records of the species from the Philippines

(T. Inaba)



O. japonicus, KAUM-I. 51657, 121.9 mm SL



O. japonicus, KAUM-I. 52612, 120.2 mm SL



O. japonicus, UPVMI 1624, 188.2 mm SL

Family Holocentridae

Sargocentron rubrum

(Forsskål 1775)

En Russet Squirrelfish

C • Cheek with 5 scale rows
 • 1–2 narrow dark red stripes on dorsal side of body
 • Posterior edge of pelvic fin reddish

D Indo-West Pacific (eastern coast of Africa to Japan and Vanuatu), Mediterranean Sea

H Coastal silty reefs in depths of 1–84 m

S 27 cm TL

(T. Inaba)

*S. rubrum*, UPVMI 621, 200.7 mm SL

Family Trachichthyidae

Hoplostethus metallicus

Fowler 1938

En Metallic Roughy

C • V, 13 dorsal-fin rays
 • III, 8–10 anal-fin rays
 • I, 6 pelvic-fin rays
 • Body oval, compressed laterally
 • Pored lateral-line scales enlarged and diamond-shaped
 • Triangular spine on preopercle
 • Scutes along mid-ventral abdomen between pelvic and anal fins

D Philippines

H Deepwater from 50 to 550 m

S 12 cm SL

R Rarely found in markets

(R. S. Cruz)

*H. metallicus*, UPVMI 2097, 123.5 mm SL (preserved specimen)

Family Zeidae

Zeus faber

Linnaeus 1758

En John Dory

C • Body oval, strongly compressed laterally
 • Mouth large, protruding forward
 • A large black blotch on middle of body

D Eastern Atlantic (including Western Baltic Sea, North Sea, Mediterranean Sea, and Black Sea) and Indo-West Pacific

H Sandy and muddy areas; usually shallower than 400 m depth

S 90 cm TL

(Y. Haraguchi)

*Z. faber*, KAUM-I. 56083, 146.3 mm SL



A. malayana, UPVMI 173, 56.6 mm SL



A. rubicunda, KAUM-I. 63021, 37.7 mm SL

Family Caproidae

Antigonina malayana

Weber 1913

Malayan Deepsea Boarfish

C • 43–50 scales along lateral line • 19–21 gill rakers
• No spines on articulate
• Notches at upper profile of body above eye • Upper-jaw length 1.5 in eye diameter
• Depth of scale ridge much larger than length of marginal ctenias

D Eastern Indian and western Pacific oceans

H Usually collected from near bottoms

S 6 cm SL

(H. Hata)

Family Caproidae

Antigonina rubicunda

Ogilby 1910

Rosy Deepsea Boarfish

C • 40–46 scales along lateral line • 19–25 gill rakers
• Spines on articulate
• Notches at upper profile of body above eye • Upper-jaw length 1.9 in eye diameter
• Depth of scale ridge less than length of marginal ctenias

D Western Pacific (Japan to

Australia and New Zealand)

H Usually collected in depths of 182–350 m

S 8 cm SL

(H. Hata)

Family Pegasidae

Pegasus volitans

Linnaeus 1758

Slender Seamoth

C • 12 tail rings • A spine on last tail ring
• Double ventral preopercular notches

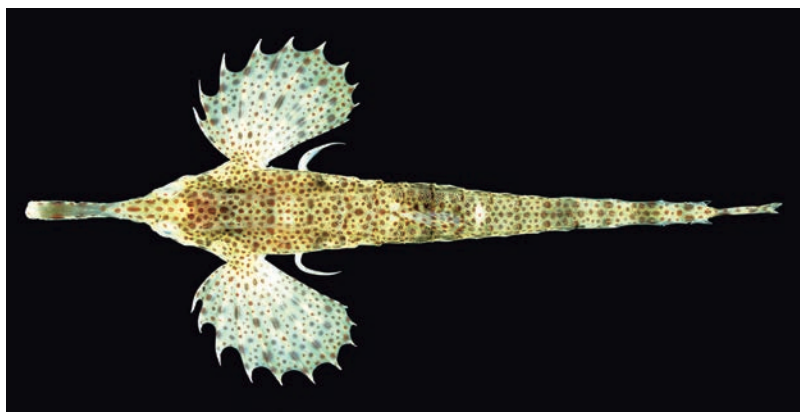
D Indo-West Pacific (East Africa to Japan and Australia)

H Sandy-muddy bottoms of coastal shallow waters

S 11 cm SL

R Superficially similar to *P. tetrabelos* Osterhage et al. 2016

(S. Chungthanawong)



P. volitans, KAUM-I. 62959, 86.4 mm SL



F. commersonii, KAUM-I. 69411, 118.7 mm SL



F. commersonii, UPVMI 1284, 319.0 mm SL

Family Fistularidae

Fistularia commersonii

Rüppell 1838

Bluespotted Cornetfish

C • Body light green or brown
• No sharp retrorse spines on lateral caudal peduncle

D Southeastern Atlantic and Indo-Pacific oceans, and Mediterranean Sea (Red Sea immigrant)

H Coastal shallow waters

S 1 m SL

(S. Chungthanawong)

Family *Fistulariidae**Fistularia petimba*

Lacepède 1803

En Red Cornetfish

C • Body red • Sharp retrorse spines on lateral caudal peduncle

D Circumglobal in tropical to temperate seas, except for eastern Pacific Ocean

H Continental shelves

S 2 m SL

(S. Chungthanawong)



F. petimba, UPVMI 457, 798.0 mm SL

Family *Centriscidae**Centriscus scutatus*

Linnaeus 1758

En Grooved Razor-fish

C • 11–12 anal-fin rays • First dorsal-fin spine fused with body armor plate • Interorbital grooved

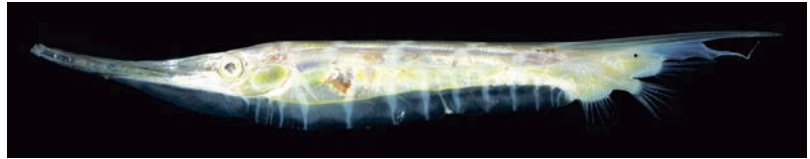
D Eastern Indian and western Pacific oceans (India to Japan and Vanuatu)

H Muddy area of coastal waters

S 14 cm TL

R Usually seen in schools with *Aeoliscus strigatus* (Günther 1861) in depths of 2–15 m

(K. Koeda)



C. scutatus, UPVMI 798, 57.9 mm SL



C. scutatus, KAUM-I. 63029, 79.5 mm SL

Family *Mugilidae**Chelon melinopterus*

(Valenciennes 1836)

En Otomebora Mullet

C • 26–29 scale rows in longitudinal series • Posterior end of maxilla exposed when mouth closed • Adipose eyelid not developed • Pectoral-fin base uniformly silver

D Indo-Pacific (South Africa to Japan and Marquesas Is.)

H Brackish-water regions of rivers and in bays

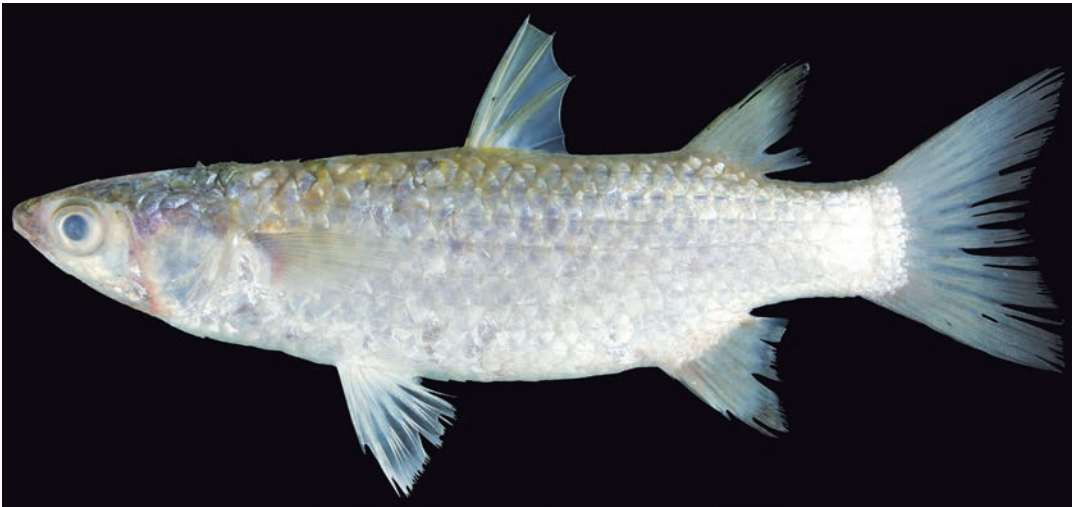
S 15 cm SL

R Feeds on detritus, small algae, and diatoms; seen in schools

(H. Senou)



C. melinopterus, UPVMI 937, 168.1 mm SL



C. subviridis, KAUM-I. 80852, 132.9 mm SL

Family Mugilidae

Chelon subviridis

(Valenciennes 1836)

En Greenback Mullet

C • 27–33 scale rows in longitudinal series • Posterior end of maxilla exposed when mouth closed • Adipose eyelid well developed • Pectoral-fin base uniformly silver

D Indo-West Pacific (Arabian Sea to Japan and New Caledonia)

H Coastal shallow waters, and from brackish-water to freshwater regions of rivers

S 20 cm SL

R Feeds on detritus, small algae, and diatoms; seen in schools

(H. Senou)



E. vaigiensis, KAUM-I. 80851, 143.4 mm SL

Family Mugilidae

Ellochelon vaigiensis

(Quoy & Gaimard 1825)

En Squartail Mullet

C • 25–29 scale rows in longitudinal series • Caudal fin almost truncate • Pectoral fin black • Caudal fin yellowish

D Indo-Pacific (Red Sea to Tuamotu Is.), except for Hawaiian Is.

H Coastal shallow waters, brackish-water regions of rivers; juveniles often seen in beaches of lagoons

S 32 cm SL

R Feeds on detritus, small algae, diatoms and various benthic organisms; seen in small schools; juveniles mimic floating bubbles

(H. Senou)

Family Mugilidae

Moolgarda perusii

(Valenciennes 1836)

En Longfinned Mullet

C • 31–34 scale rows in longitudinal series • Posterior end of maxilla not exposed when mouth closed • Adipose eyelid well developed • Upper end of pectoral-fin base with a black spot

D Indo-West Pacific (Red Sea to Tuamotu Is.); introduced to Hawaiian Is.

H Shallow waters in bays, brackish-water regions of rivers

S 16 cm SL

R Feeds on detritus, small algae, and diatoms; seen in schools

(H. Senou)



M. perusii, KAUM-I. 80737, 113.5 mm SL

Family Atherinidae

Atherinomorus duodecimalis
(Valenciennes 1835)

En Tropical Silverside

- C** • Upper margin of dentary with a tubercle at posterior end • 12–13 anal-fin rays • Midlateral band narrow
- D** Eastern Indian and western Pacific oceans (Sri Lanka to Japan and Australia)
- H** Estuaries to the open coast
- S** 8 cm SL

(R. Matsuo)

*A. duodecimalis*, UPVMI 325, 59.6 mm SL

Family Atherinidae

Hypoatherina temminckii
(Bleeker 1854)

En Samoan Silverside

- C** • Body slender and elongate • Ascending process of premaxilla long and slender • 38–42 midlateral scales • Axillary scale elongated posteriorly
- D** Indo-West Pacific (east coast of Africa to Japan and Australia), except for Red Sea
- H** Rocky shore and seagrass area
- S** 9 cm SL

(R. Matsuo)

*A. duodecimalis*, KAUM-I. 56059, 65.6 mm SL*H. temminckii*, UPVMI 203, 63.6 mm SL

Family Hemiramphidae

Euleptorhamphus viridis
(van Hasselt 1823)

En Ribbon Halfbeak

- C** • Body and lower jaw elongated • Pectoral fin very long • 21–25 dorsal-fin rays • 20–25 anal-fin rays • 8–9 pectoral-fin rays • No markings on fins
- D** Indo-Pacific (East Africa and Red Sea to Hawaiian Is., Tonga, and New Zealand), eastern Pacific (California to Galápagos Is.)
- H** Pelagic
- S** 53 cm TL
- R** Common around Panay I.

(A. M. T. Guzman)

*H. temminckii*, KAUM-I. 50954, 66.4 mm SL*E. viridis*, KAUM-I. 91710, 259.4 mm SL



H. archipelagicus, KAUM-I. 63031, 132.8 mm SL



H. far, UPVMI 604, 185.7 mm SL

Family Hemiramphidae

Hemiramphus archipelagicus

Collette & Parin 1978

En Jumping Halfbeak

C • 10–13 (usually 12) anal-fin rays • Pectoral fins short • No spots or bars on sides of body in adults

D Indo-West Pacific (Pakistan to Philippines)

H Coastal waters

S 23 cm SL

(A. C. Gaje)

Family Hemiramphidae

Hemiramphus far

(Forskål 1775)

En Black-barred Halfbeak

C • 9–12 (usually 11) anal-fin rays • Pectoral fins short • 3–9 short dark vertical bars on sides of body in adults

D Indo-West Pacific (East Africa to Japan, Tonga, and Australia), Mediterranean Sea (Red Sea immigrant)

H Continental coasts and islands

S 33 cm SL

(A. C. Gaje)



H. lutkei, UPVMI 279, 172.9 mm SL



H. lutkei, KAUM-I. 80860, 148.1 mm SL

Family Hemiramphidae

Hemiramphus lutkei

Valenciennes 1847

En Lutke's Halfbeak

C • 12–15 dorsal-fin rays • 10–13 anal-fin rays • 10 pectoral-fin rays • 33–46 gill rakers • No black spots on upper side of body • Tip of lower jaw reddish

D Indo-West Pacific (East Africa to Japan, Samoa, and Australia)

H Coastal waters

S 40 cm SL

(S. Ishikawa)



H. lutkei, KAUM-I. 63001, 140.1 mm SL

Family Exocoetidae

Cheilopogon arcticeps

(Günther 1866)

En Bearhead Flyingfish

C • 8–9 anal-fin rays • 26–29 pre-dorsal-fin scale rows • Lower jaw slightly projecting

D Western Pacific (Japan to Thailand and Solomon Is.)

H Surface waters of neritic areas

S 21 cm SL

(S. Tashiro)



C. arcticeps, KAUM-I. 63030, 125.7 mm SL

Family Exocoetidae

Cheilopogon furcatus

(Mitchill 1815)

En Spotfin Flyingfish

C • 9–11 anal-fin rays • Lower jaw projecting • Pectoral fins with pale yellow band

D Topical to temperate waters of Indo-Pacific and Atlantic oceans

H Surface waters of open ocean

S 30 cm SL

(S. Tashiro)

*C. furcatus*, UPVMI 580, 178.1 mm SL

Family Exocoetidae

Cheilopogon katoptron

(Bleeker 1865)

En Indonesian Flyingfish

C • 23–26 pre-dorsal-fin scales • Jaw teeth relatively large • Pectoral fins without bands and spots

D Western Pacific (Indonesia to Philippines and northern Australia)

H Surface waters of neritic areas

S 24 cm SL

(S. Tashiro)

*C. katoptron*, UPVMI 345, 135.6 mm SL

Family Exocoetidae

Cypselurus longibarbus

(Parin 1961)

En —

C • Lower jaw protruding • Pectoral fin blackish with pale oblique band

D Tropical to warm-temperate western Pacific

H Surface waters of open ocean

S 30 cm TL

(S. Tashiro)

*C. longibarbus*, KAUM-I. 62935, 150.0 mm SL

Family Exocoetidae

Cypselurus naresii

(Günther 1889)

En Pharaoh Flyingfish

C • 7–9 anal-fin rays • 28–32 pre-dorsal-fin scales • Pectoral fins blackish without bands and spots

D Indo-West Pacific (Madagascar to Japan and Fiji)

H Surface waters of open ocean and neritic areas

S 30 cm TL

(S. Tashiro)

*C. naresii*, KAUM-I. 62958, 123.1 mm SL*C. naresii*, UPVMI 609, 126.7 mm SL



Family Exocoetidae

Hirundichthys oxycephalus
(Bleeker 1852)

 Bony Flyingfish

C ● 9–12 dorsal-fin rays ● 13–14 anal-fin rays ● Pectoral fin blackish, reaching to caudal peduncle

D Indo-West Pacific (Arabian Sea to Japan and Solomon Is.)

H Surface waters of neritic areas

S 18 cm SL

(S. Tashiro)



H. oxycephalus, KAUM-I. 62936, 156.0 mm SL

Family Exocoetidae

Oxyorhamphus convexus convexus
Weber & de Beaufort 1922

 Flying Halfbeak

C ● Posterior tip of pectoral fin not reaching to pelvic-fin origin ● Swimbladder with small vesicle

D Indo-West Pacific (East Africa to Japan and New Ireland, except for coastal areas of Red to Arabian seas)

H Surface waters of neritic areas

S 18 cm SL


(S. Tashiro)



O. convexus convexus, KAUM-I. 62919, 120.6 mm SL

Family Belontiidae

Ablennes hians
(Valenciennes 1846)

 Flat Needlefish

C ● 24–28 anal-fin rays ● Body with dark vertical bands

D Topical to temperate waters of Indo-Pacific and Atlantic oceans

H Surface waters of open ocean and neritic areas

S 120 cm TL

(S. Tashiro)



A. hians, UPVMI 582, 390.0 mm SL

Family Belontiidae

Strongylura incisa
(Valenciennes 1846)

 Reef Needlefish

C ● 18–20 dorsal-fin rays ● 21–24 anal-fin rays ● Caudal peduncle without keel

D Eastern Indian and western Pacific oceans (Maldives to Philippines and Fiji)

H Surface waters of neritic areas

S 75 cm SL

(S. Tashiro)



S. incisa, UPVMI 1623, 722.8 mm SL



S. incisa, UPVMI 1283, 229.0 mm SL

Family Neosebastidae

Neosebastes entaxis

Jordan & Starks 1904

En Oriental Gurnard Perch

C • 13 long dorsal-fin spines

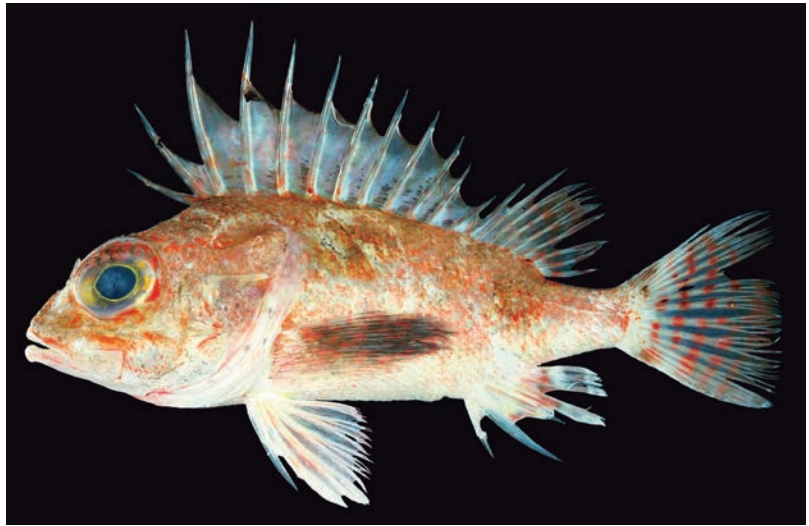
• 7–8 dorsal-fin soft rays •
pectoral fin shorter than headD Western Pacific (Japan to
Indonesia)

H Deep sea rocky reef

S 18 cm SL

R The present specimen
represents the first specimen-
based record of the species
from the Philippines

(H. Motomura)

*N. entaxis*, KAUM-I. 52618, 152.2 mm SL

Family Scorpaenidae

Pterois russelii

Bennett 1831

En Plaintail Firefish

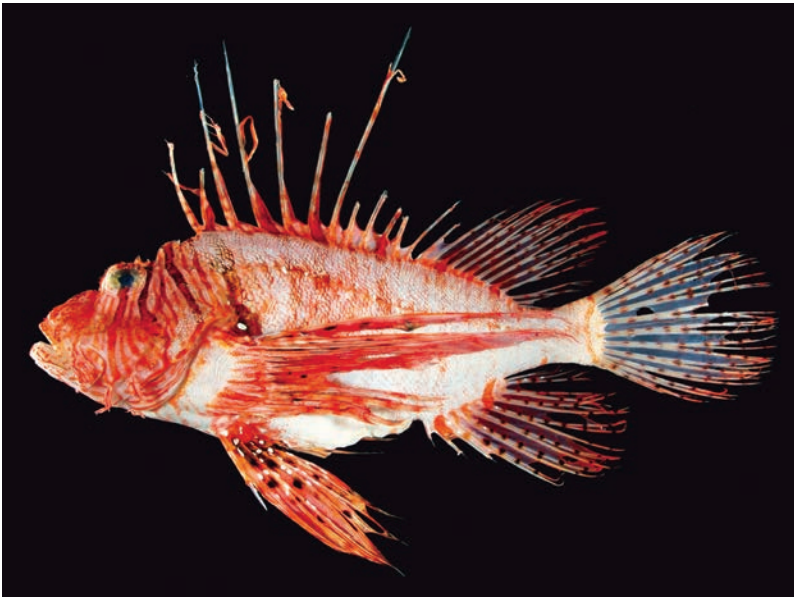
C • 13 dorsal-fin spines •
13 pectoral-fin rays • No
black spots on dorsal, anal, or
caudal fins • Pelvic fin and
inner surface of pectoral fin
with numerous white spotsD Indo-West Pacific (east
coast of Africa to Taiwan and
New Caledonia)H Sandy bottoms among
corals

S 20 cm SL

R Common around Panay I.,
but rarely found at markets
due to venomous fin spines

(M. Matsumura)

*P. russelii*, KAUM-I. 51660, 133.0 mm SL*P. russelii*, KAUM-I. 69407, 39.3 mm SL*P. russelii*, KAUM-I. 51651, 114.6 mm SL



P. volitans, UPVMI 626, 250.7 mm SL

Family Scorpaenidae

Pterois volitans

(Linnaeus 1758)

En Red Lionfish

C • 13 dorsal-fin spines • 14 pectoral-fin rays • Numerous black spots on dorsal, anal, and caudal fins • Ventral surface of lower jaw and thorax with dark bands

D Eastern Indian and Pacific oceans (Indonesia to Japan and French Polynesia)

H Rocky or coral reefs

S 28 cm SL

R Common around Panay I.; fin spines venomous and highly dangerous

(M. Matsunuma)



S. neglecta, KAUM-I. 56023, 118.2 mm SL

Family Scorpaenidae

Scorpaenopsis neglecta

Heckel 1839

En Yellowfin Scorpionfish

C • 12 dorsal-fin spines • Snout pointed • Inside of pectoral fin yellowish with black margin • Pectoral-fin axil with numerous black spots

D Indo-West Pacific (India to Japan and Indonesia)

H Prefers sandy bottom near rocky reefs

S 18 cm SL

R Common around Panay I., but rarely found at markets

(H. Motomura)



S. ramaraoi, KAUM-I. 56043, 76.9 mm SL

Family Scorpaenidae

Scorpaenopsis ramaraoi

Randall & Eschmeyer 2002

En Rama Rao's Scorpionfish

C • 12 dorsal-fin spines • Snout pointed • Anterior ridge of lacrimal with exposed spine • Body color variable, but always blackish or brownish

D Indo-West Pacific (Pakistan to Japan and New Caledonia)

H Rocky reefs in shallow waters

S 17 cm SL

R Common around Panay I.

(H. Motomura)



Family Synanceiidae

Inimicus sinensis

(Valenciennes 1833)

En Spotted Stingray

C • Snout length equal to or longer than postorbital length
• XVI–XVIII, 6–9 dorsal-

fin rays • II, 10–13 anal-fin rays • Large yellow spots on inner surface of pectoral fin • Upper pectoral-fin rays filamentous only in juveniles

D Eastern Indian and western Pacific oceans (Sri Lanka to China, Philippines, and Australia)

H Silt or sandy bottoms

S 24 cm SL



(T. Inaba)

I. sinensis, KAUM-I. 56080, 115.6 mm SL

Family Tetrarogidae

Paracentropogon longispinis

(Cuvier 1829)

En Whiteface Waspfish

C • 12–15 dorsal-fin spines • I, 4 pelvic-fin rays • Brown or violet spots on body • Violet oblique bands on dorsal and anal fins

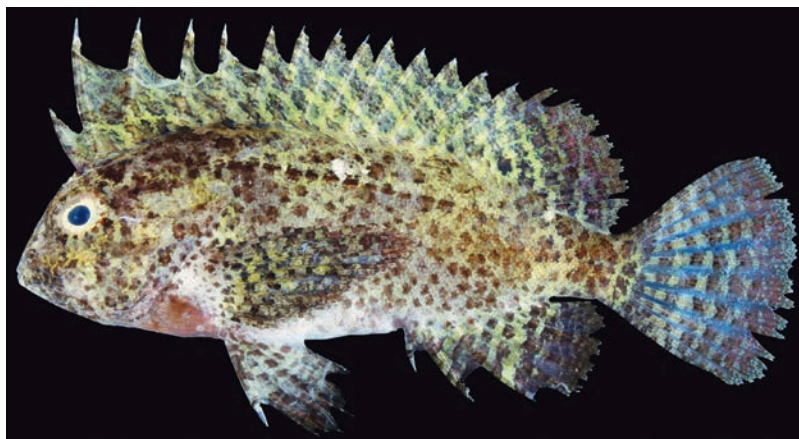
D Indo-West Pacific (southern India to southern China and Australia)

H Brackish and inshore marine waters

S 8 cm SL

R Poisonous

(S. Chungthanawong)



P. longispinis, KAUM-I. 80615, 52.4 mm SL

Family Aploactinidae

Acanthosphex leurynnis

(Jordan & Seale 1905)

En Wasp-spine Velvetfish

C • 3 anterior dorsal-fin spines separating from fourth spine • Bifurcate lacrimal spines • 4 strong preopercular spines • Gill membrane broadly unite to isthmus

D Indo-West Pacific (India to China and Australia)

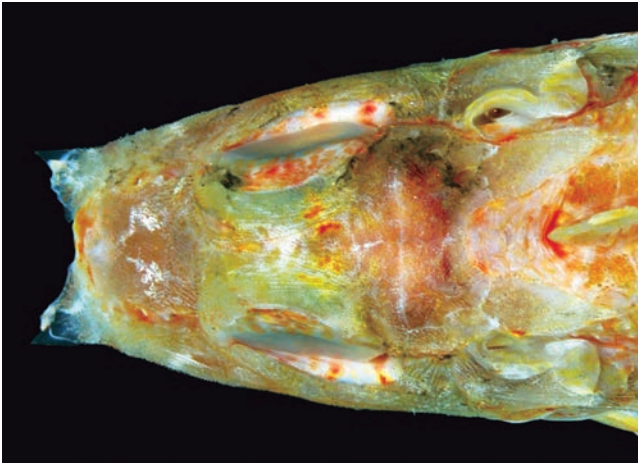
H Rocky and coral bottoms

S 2 cm SL

(S. Chungthanawong)



A. leurynnis, KAUM-I. 69430, 20.0 mm SL

*L. hime*, KAUM-I. 52622, 89.8 mm SL

Family Triglidae

Lepidotrigla hime

Matsubara & Hiyama 1932

En—

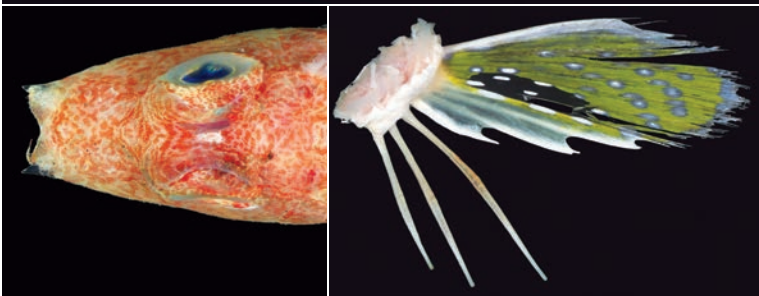
C • Rostral projection composed of single large spine and several small spines • Posterior margin of joined pectoral fin not reaching below base of sixth dorsal-fin ray • Inside of joined pectoral fin uniformly dark blue, except for translucent part of lowermost three rays

D Western Pacific (Japan to South China Sea)

H 50–360 m depth

S 16 cm SL

(T. Kawai)

*Lepidotrigla* sp., KAUM-I. 63057, 89.5 mm SL

Family Triglidae

Lepidotrigla sp.

En—

C • Rostral projection composed of single large spine and several small spines • Pectoral fin very large and posterior margin of joined pectoral fin reaching below base of ninth dorsal-fin ray • Inside of joined pectoral fin greenish brown with single large black blotch and many small white spots, except for translucent part of lowermost three rays

D Panay I.

H Sandy bottom

S 9 cm SL

R This species is similar to *L. punctipectoralis* Fowler 1938 in having the same color pattern of pectoral fins, but differs from the latter in having the very large pectoral fins (vs. moderate). Further taxonomic studies are needed for this group.

(T. Kawai)



Family Peristediidae

Satyrichthys laticeps

(Schlegel 1852)

En —

C • Four lip and 2–5 chin barbels • Parietal bones unequal in size on midline • No dusky spots on dorsal fin • Antrose spines on upper lateral bony plates of caudal peduncle

D Indo-West Pacific (east coast of Africa to Japan)

H 60–300 m depth

S 50 cm SL

(T. Kawai)

*S. laticeps*, UPVMI 920, 381.4 mm SL

Family Peristediidae

Satyrichthys welchi

(Herre 1925)

En —

C • Four lip and 3 chin barbels • Parietal bones equal in size on midline • Many dusky spots on spinous dorsal fin • Antrose spines on upper lateral bony plates of caudal peduncle

D Western Pacific (Japan to New South Wales, Australia)

H 80–230 m depth

S 36 cm SL

(T. Kawai)

*S. welchi*, UPVMI 625, 363.7 mm SL

Family *Platycephalidae**Cymbacephalus nematophthalmus*
(Günther 1860)

E Fringe-eyed Flathead

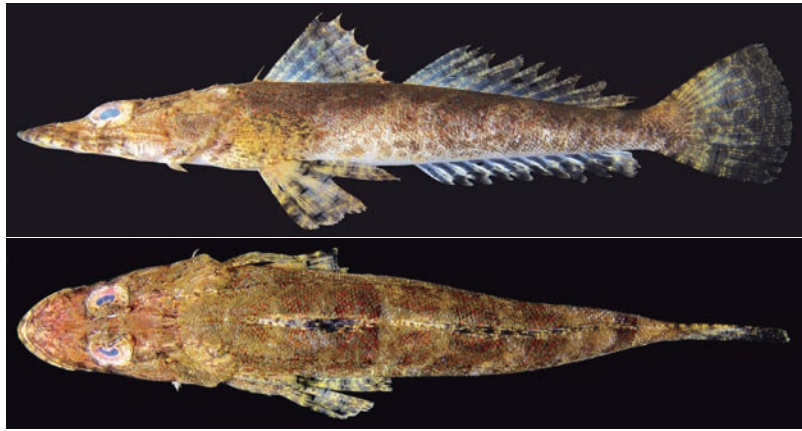
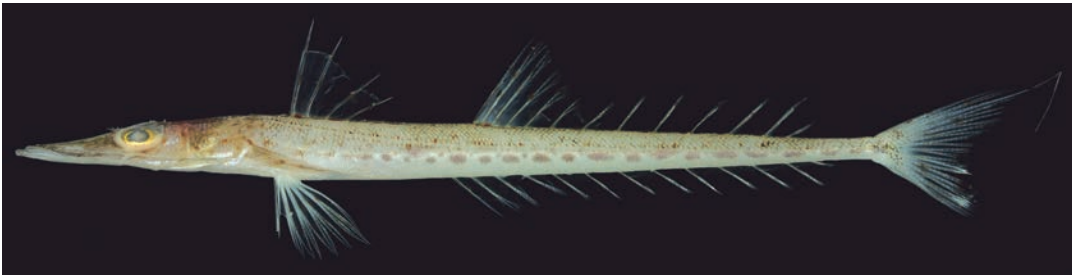
C • Suborbital ridge with 1 spine below eye • Dermal papillae on eye • Deep pit present posterior to eye

D Western Pacific (Philippines and Johor Shoals to Australia)

H Shallow rocky coastal areas

S 58 cm SL

(H. Imamura)

*C. nematophthalmus*, UPVMI 1664, 178.5 mm SL*E. ransonnetii*, KAUM-I. 62947, 140.0 mm SLFamily *Platycephalidae**Elates ransonnetii*

(Steindachner 1876)

E Dwarf Flathead

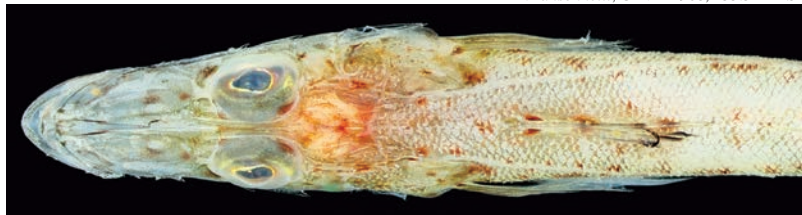
C • Head and body slender and elongate • Preopercle with 1 long spine

D Western Pacific (Taiwan to Australia)

H Sandy and muddy bottoms

S 19 cm TL

(H. Imamura)

*E. ransonnetii*, UPVMI 908, 155.5 mm SL*E. ransonnetii*, KAUM-I. 69431, 77.7 mm SLFamily *Platycephalidae**Inegocia japonica*

(Cuvier 1829)

E Japanese Flathead

C • Suborbital ridge with 2 spines • Dermal papillae absent on eye • Deep pit absent posterior to eye

D Indo-West Pacific (Sri Lanka to Japan and Australia)

H Sandy and muddy bottoms

S 27 cm TL

(H. Imamura)

*I. japonica*, UPVMI 317, 78.0 mm SL*I. japonica*, UPVMI 1280, 100.3 mm SL

Family *Platycephalidae**Onigocia macrocephala*

(Weber 1913)

En Southern Notched Flathead

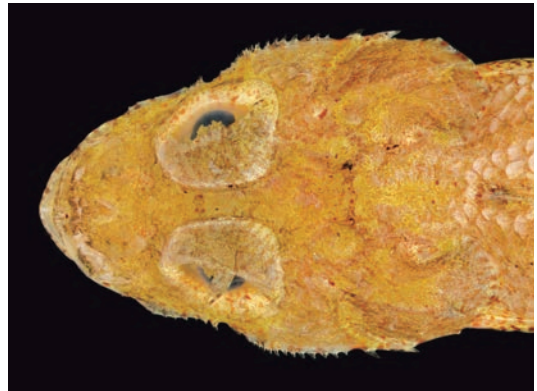
C • Suborbital ridge roughly serrated • Dermal flap on eye long, beyond posterior margin of eye • Iris lappet short and branched

D Western Pacific (China and Philippines to Australia)

S 11 cm TL

R This species has long been confused with *O. macrolepis* (Bleeker 1854) until Imamura (2012) reevaluated the validity of the former

(H. Imamura)

*O. macrocephala*, KAUM-I. 69455, 63.9 mm SLFamily *Platycephalidae**Platycephalus indicus*

(Linnaeus 1758)

En Bartail Flathead

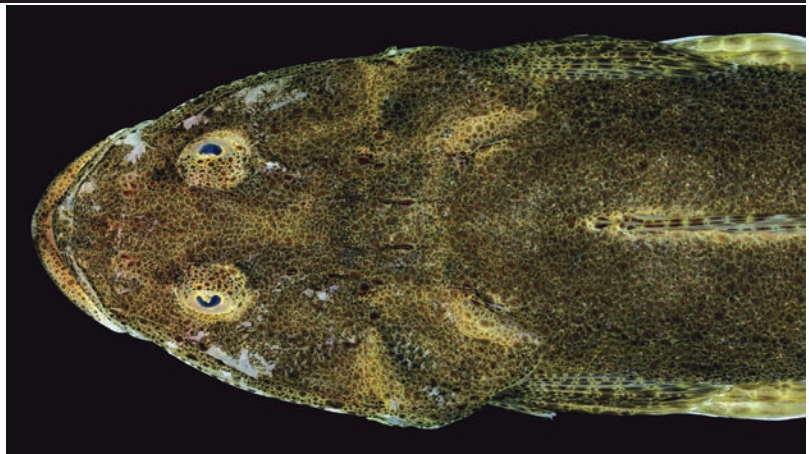
C • Head and body strongly depressed • Eye small and interorbit wide • Caudal fin with single yellow blotch

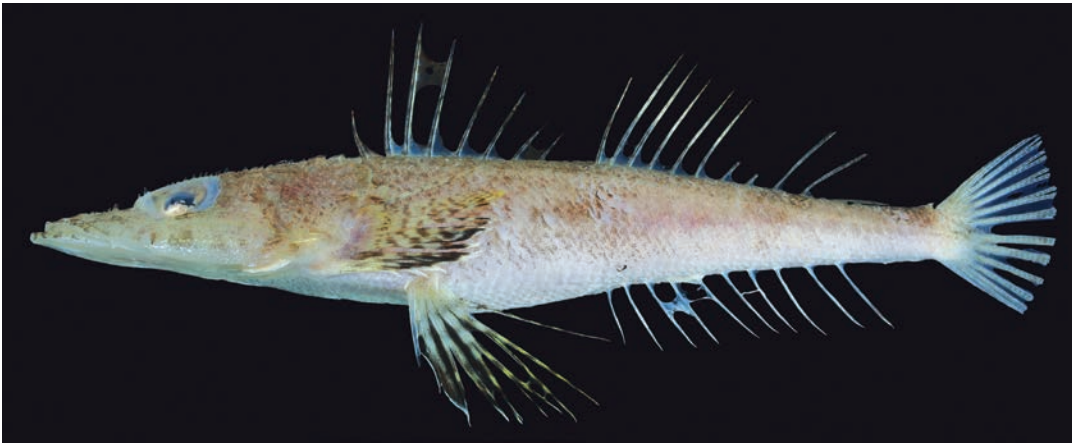
D Indo-West Pacific (South Africa to Taiwan and Indonesia)

H Muddy or sandy shallow coastal waters

S 50 cm TL

(H. Imamura)

*P. indicus*, UPVMI 948, 258.7 mm SL



Family **Platycephalidae**

Rogadius tuberculatus

(Cuvier 1829)

En Tuberculated Flathead

- C** ● Dorsal surface of head with spines and tubercles ● Suborbital ridge finely serrated ● Iris lappet scalloped
- D** Indo-West Pacific (Persian Gulf to Japan and Australia)
- H** Sandy and muddy bottoms
- S** 18 cm TL



(H. Imamura)

R. tuberculatus, KAUM-I. 80847, 101.0 mm SL



Family **Platycephalidae**

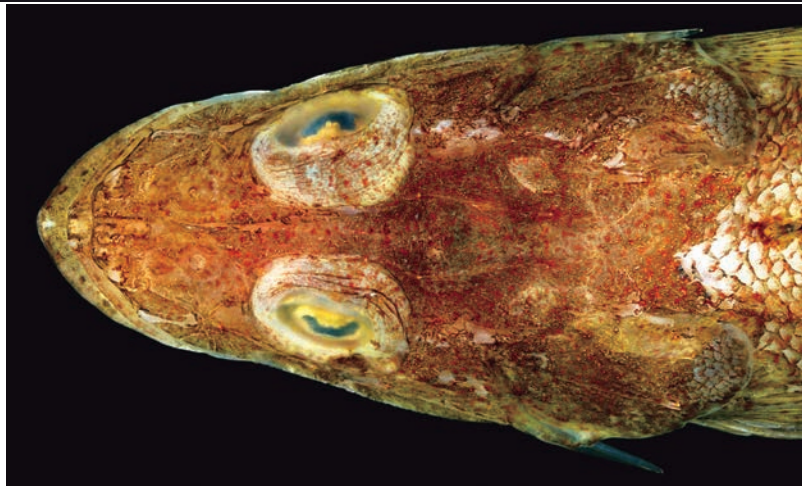
Suggrundus macracanthus

(Bleeker 1869)

En Largespined Flathead

- C** ● Dorsal surface of head with spines and tubercles ● Suborbital ridge with many spines ● Iris lappet bilobed in adults
- D** Indo-West Pacific (India and Sri Lanka to Taiwan and Coral Sea)
- H** Muddy or sandy bottoms
- S** 26 cm TL

(H. Imamura)



S. macracanthus, UPVMI 602, 144.2 mm SL



Family Dactylopteridae

Dactyloptena macracantha
(Bleeker 1854)

En Spotwing Helmet Gurnard

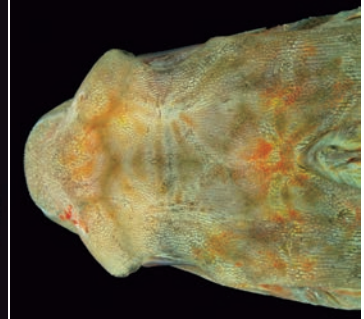
C • Snout rounded • Inter-orbital space, 12–16% SL • Two free dorsal-fin spines, first spine long and second spine short (rarely absent) • Pectoral fin with one dark blotch

D Indo-West Pacific (northern Indian Ocean to Japan)

H 50–180 m depth

S 17 cm SL

(T. Kawai)

*D. macracantha*, UPVMI 581, 100.8 mm SL

Family Dactylopteridae

Dactyloptena orientalis
(Cuvier 1829)

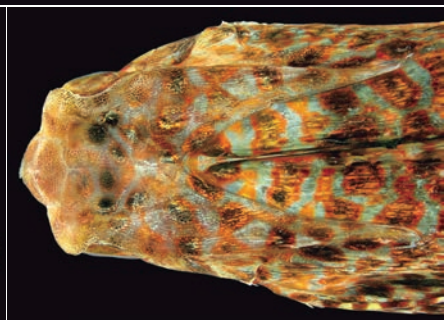
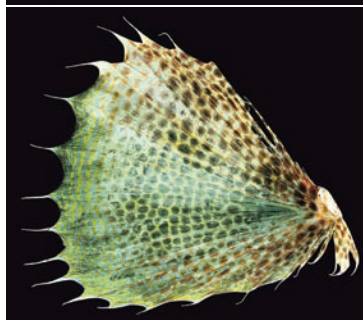
En Oriental Helmet Gurnard

C • Snout rounded • Inter-orbital space, 12–16% SL • Two free dorsal-fin spines • Many small dark spots on pectoral fin

D Indo-Pacific (east coast of Africa to Japan, Hawaii, and Pitcairn I.)

S 35 cm SL

(T. Kawai)

*D. orientalis*, UPVMI 628, 267.1 mm SL





Family Dactylopteridae


Dactyloptena peterseni


(Nyström 1887)

 Starry Helmet Gurnard

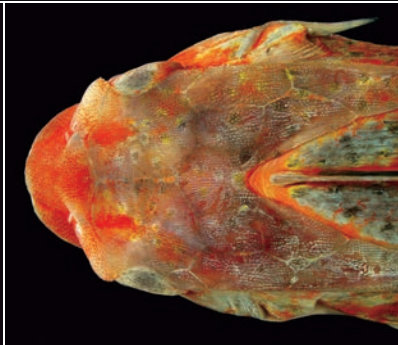
 Snout rounded • Single free dorsal-fin spine • Body scales on sides with single transverse ridge on each scale

 Indo-West Pacific (east coast of Africa to Japan)

 20–180 m depth

 36 cm SL

(T. Kawai)




D. peterseni, UPVMI 624, 359.4 mm SL


Family Dactylopteridae

Dactyloptena tiltoni


Eschmeyer 1997

 Plain Helmet Gurnard

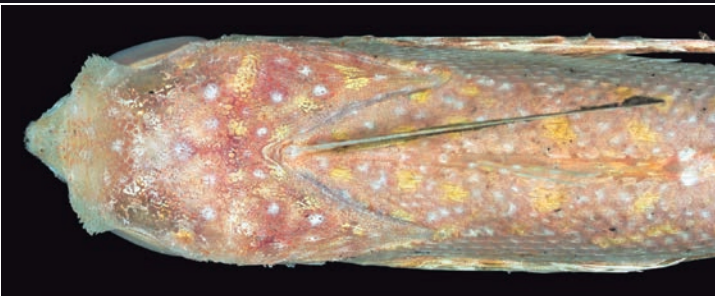
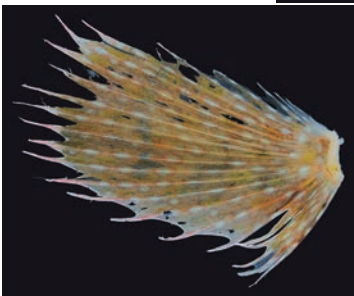
 Snout pointed • Single free dorsal-fin spine • Body scales on sides with multiple transverse ridges on each scale

 Japan, Philippines, and western and northern Australia

 120–570 m depth

 15 cm SL

(T. Kawai)



D. tiltoni, lateral body and pectoral fin: UPVMI 176, 86.1 mm SL; anterodorsal body: KAUM-I. 63022, 73.1 mm SL

Family Latidae

Lates calcarifer

(Bloch 1790)

En Barramundi

C • 54–57 pored lateral-line scales • 16–17 lower gill rakers • Lateral line extending onto caudal fin • Mouth large • Dorsal fin deeply incised before last dorsal-fin spine • 3rd spine longest in anal fin

D Indo-West Pacific (Persian Gulf to China and Australia)

H Coastal marine and estuarine waters

S 2 m TL

R Popular food fish

(T. Uejo)

*L. calcarifer*, UPVMI 190, 137.0 mm SL

Family Latidae

Psammoperca waigiensis

(Cuvier 1828)

En Waigieu Seaperch

C • 48–49 pored lateral-line scales • 12–14 lower gill rakers • Lateral line extending onto caudal fin • Mouth relatively small • 3rd spine longest in anal fin

D Eastern Indian and western Pacific oceans (Indonesia to Japan and Australia)

H Coastal marine and estuarine waters

S 35 cm TL

R Marketed mainly fresh

(T. Uejo)

*P. waigiensis*, UPVMI 333, 231.3 mm SL

Family Ambassidae

Ambassis interrupta

Bleeker 1853

En Long-spined Glass Perchlet

C • Dorsal-fin rays VIII, 9–10 • Height of dorsal-fin spine 34–38% of SL • Body depth 37.2–47.8% of SL • Second spine of dorsal fin strong and very long • Lateral line interrupted in middle portion

D Eastern Indian and western Pacific oceans (Andaman Islands to Japan and Vanuatu)

H Brackish-water, mangrove area, estuarine, and fresh-water streams

S 12 cm SL

R Found in schools. Amphidromous

(K. Koeda)

*A. interrupta*, UPVMI 1678, 32.5 mm SL



A. miops, UPVMI 1676, 37.5 mm SL

Family **Ambassidae**

Ambassis miops

Günther 1872

En Flag-tailed Glass Perchlet

C • Predorsal scales 12–15
• Second dorsal-fin spine slightly shorter than third spine • Body relatively slender • Horizontal scale rows from anal-fin origin to dorsal-fin base 9–10 • Lateral line continuous

D Eastern Indian and western Pacific oceans (India to Japan and New Guinea)

H Brackish-water, mangrove area, estuarine, and freshwater streams

S 11 cm SL

R Amphidromous

(K. Koeda)



A. nalua, KAUM-I. 57197, 44.3 mm SL

Family **Ambassidae**

Ambassis nalua

(Hamilton 1822)

En Scalloped Perchlet

C • Pectoral-fin rays 16–17
• Nasal spine absent • Body relatively deep, its depth 45.3–50.6% of SL • Lateral line continuous from upper edge of gill opening to caudal-fin base • Second spine of dorsal fin strong and long

D Eastern Indian and western Pacific oceans (India to Philippines and New Guinea)

H Brackish-water, mangrove area, estuarine, and freshwater

S 13 cm SL

R Amphidromous

(K. Koeda)



D. berycoides, UPVMI 1625, 147.5 mm SL

Family **Acropomatidae**

Doederleinia berycoides

(Hilgendorf 1879)

En Blackthroat Seaperch

C • IX, 10 dorsal-fin rays • Large canine teeth on both jaws • Body and head reddish • Oral cavity black

D Eastern Indian and western Pacific oceans (northwestern Australia to Japan)

H Deep sea muddy and sandy bottoms (80–600 m)

S 35 cm SL

(M. Okamoto)

Family Acropomatidae

Synagrops japonicus
(Döderlein 1883)

En Blackmouth Splitfin

C • 9 dorsal-fin spines • 2 anal-fin spines • Anterior margin of pelvic-fin spine smooth • Body, head, and oral cavity black

D Indo-West Pacific (east coast of Africa to Japan), Hawaiian Is.

H Deep sea muddy and sandy bottoms

S 35 cm SL

R Common around Panay I., caught by bottom trawl
(M. Okamoto)

*S. japonicus*, UPVMI 346, 136.2 mm SL

Family Acropomatidae

Synagrops philippinensis
(Günther 1880)

En Sharptooth Seabass

C • 9 dorsal-fin spines • 2 anal-fin spines • Anterior margin of pelvic-fin spine serrated • Body, head, and oral cavity tan

D Eastern Indian and western Pacific oceans (Japan to northern Australia and New Caledonia), Red Sea

H Muddy and sandy bottoms in continental shelves

S 10 cm SL

R Common around Panay I., caught by bottom trawl
(M. Okamoto)

*S. philippinensis*, UPVMI 1615, 140.3 mm SL

Family Serranidae

Aethaloperca rogae
(Forsskål 1775)

En Redmouth Grouper

C • 9 dorsal-fin spines • Palatine teeth present • Fifth or sixth pectoral-fin rays longest • Caudal fin emarginated • Body uniformly blackish brown

D Indo-West Pacific (South Africa to Fiji)

H Coral reefs in depths of 3–60 m

S 36 cm SL

R Marketed mainly fresh
(H. Hata)

*A. rogae*, UPVMI 1669, 207.1 mm SL



A. leucogrammicus, UPVMI 1722, 358.8 mm SL

Family Serranidae

Anyperodon leucogrammicus
(Valenciennes 1828)

En Slender Grouper

C • Body with numerous reddish orange spots in adults
• XI, 14–16 dorsal-fin rays
• 15–16 pectoral-fin rays • Palatine teeth absent • Caudal fin rounded

D Indo-West Pacific (Madagascar to Japan and Samoa)

H Coral reefs in depths of 5–80 m

S 37 cm SL

R Marketed mainly fresh (H. Hata)



C. argus, UPVMI 1670, 231.7 mm SL

Family Serranidae

Cephalopholis argus
(Bloch & Schneider 1801)

En Peacock Grouper

C • Body brown with numerous black edged blue spots
• IX, 15–17 dorsal-fin rays
• 15–16 pectoral-fin rays • III, 9 (rarely 8 or 10) anal-fin rays

D Indo-Pacific (South Africa to Japan and French Polynesia)

H Coral and rocky reefs in shallower than 40 m

S 44 cm SL

R Marketed mainly fresh (H. Hata)



C. argus, UPVMI 183, 242.2 mm SL

Family Serranidae

Cephalopholis boenak
(Bloch 1790)

En Chocolate Grouper

C • Body dark reddish brown with 7 or 8 dark bars
• Black spot between upper and middle opercular spines
• IX, 15–17 dorsal-fin rays
• III, 8 anal-fin rays • Caudal fin rounded

D Indo-West Pacific (South Africa to Japan and New Caledonia)

H Coral reefs in depths of 4.5–30 m

S 20 cm SL

R Common around Panay I.; marketed mainly fresh (H. Hata)



C. boenak, UPVMI 148, 147.6 mm SL

Family Serranidae

Cephalopholis cyanostigma

(Valenciennes 1828)

En Bluespotted Hind

C • Body dark red with numerous black edged blue spots on head and fins, pale spots on body • IIX, 16 dorsal-fin rays • III, 8 anal-fin rays

D Tropical western Pacific (Peninsula Malay to Solomon Islands and Philippines)

H Coral reefs in depths of 1.5–50 m

S 23 cm SL

R Marketed mainly fresh (H. Hata)

*C. cyanostigma*, UPVMI 1643, 179.1 mm SL

Family Serranidae

Cephalopholis igarashiensis

Katayama 1957

En Goldbar Grouper

C • Body red with yellow bars • Body deep, its depth 2.0–2.4 in SL • Pelvic fin red, with black anterior margin

D Tropical Pacific (South China Sea to Japan and French Polynesia)

H Rocky reefs in depths of 30–250 m

S 29 cm SL

R Marketed mainly fresh (H. Hata)

*C. igarashiensis*, UPVMI 449, 191.9 mm SL

Family Serranidae

Cephalopholis miniata

(Forsskål 1775)

En Coral Hind

C • Body reddish orange with numerous blue spots • IX, 14–16 dorsal-fin rays • III, 8–9 anal-fin rays

D Indo-Pacific (South Africa to Japan and Palmyra Atoll)

H Coral reefs in depths of 2–150 m

S 31 cm SL

R Marketed mainly fresh (H. Hata)

*C. miniata*, UPVMI 160, 217.7 mm SL



C. sexmaculata, UPVMI 1661, 263.5 mm SL

Family Serranidae

Cephalopholis sexmaculata
(Rüppell 1830)

En Sixspot Grouper

- C • Body reddish orange with numerous blue spots
- Black blotches on dorsal trunk and caudal peduncle
- IX, 14–16 dorsal-fin rays
- III, 9 anal-fin rays

D Indo-Pacific (South Africa to Japan and Marquesas Is.)

H Coral reefs in depths of 10–150 m

S 38 cm SL

R Marketed mainly fresh
(H. Hata)



C. sonnerati, UPVMI 451, 235.8 mm SL

Family Serranidae

Cephalopholis sonnerati
(Valenciennes 1828)

En Tomato Grouper

- C • Body reddish orange with numerous small dark reddish blotches
- IX, 14–16 dorsal-fin rays
- III, 9 anal-fin rays

D Indo-Pacific (South Africa to Japan and Palmyra Atoll)

H Coral reefs in depths of 10–100 m

S 41 cm SL

R Marketed mainly fresh
(H. Hata)



C. sonnerati, UPVMI 1096, 311.4 mm SL

Family Serranidae

Cephalopholis urodeta
(Valenciennes 1828)

En Darkfin Hind

- C • Body reddish orange with numerous small red spots on head
- Caudal fin with two white bands

D Indo-Pacific (South Africa to Japan and French Polynesia)

H Coral reefs in depths of 10–60 m

S 22 cm SL

R Marketed mainly fresh
(H. Hata)



C. urodeta, UPVMI 146, 155.2 mm SL

Family Serranidae

Chelidoperca hirundinacea

Valenciennes 1831

En —

C • 16 pectoral-fin rays • 3.5 scale rows between lateral line and dorsal-fin base • Large reddish blotch on mid-body • Caudal-fin lobes elongate

D Northwestern Pacific (Japan to Philippines)

H Sandy bottoms

S 14 cm SL

R Usually taken by bottom trawls; no commercial importance

(M. Matsunuma)



C. hirundinacea, KAUM-I. 56084, 96.4 mm SL

Family Serranidae

Chelidoperca santosi

Williams & Carpenter 2015

En Pogi Perchlet

C • 16 pectoral-fin rays • 2.5 scale rows between lateral line and dorsal-fin base • Snout with row of 4 small dark spots • Anal fin with 4–6 yellow stripes

D Philippines

H Sandy bottoms

S 9 cm SL

R Recently described from the Philippines at a depth of 146 m

(M. Matsunuma)



C. santosi, UPVMI 1172, 88.0 mm SL

Family Serranidae

Cromileptes altivelis

(Valenciennes 1828)

En Humpback Grouper

C • X, 17–19 dorsal-fin rays • III, 10 (rarely 9) anal-fin rays • Dorsal profile of head concave, rising steeply at nape • Body pale white with spots

D Eastern Indian and western Pacific oceans (Nicobar Is. to Japan and New Caledonia)

H Coral reefs in depths of 10–60 m

S 45 cm SL

R Marketed mainly fresh

(H. Hata)



C. altivelis, UPVMI 1213, 268.9 mm SL



D. bifasciatum, UPVMI 615, 124.5 mm SL

Family Serranidae

Diploprion bifasciatum

Cuvier 1828

En Double-banded Soapfish

- C • 8 dorsal-fin spines • 2 anal-fin spines • Body relatively deep • Body yellow with two black bands
- D Indo-West Pacific (Maldives to Japan and Vanuatu)
- H Coastal rocky reefs
- S 20 cm SL
- R Common around Panay I., but rarely found at markets. Main components of skin-toxin of this species is a low molecular weight compound (T. Yoshida)

Family Serranidae

Epinephelus amblycephalus

(Bleeker 1857)

En Bighead Grouper

- C • XI, 15–16 dorsal-fin rays • III, 8 (rarely 9) anal-fin rays • Body light gray-brown with brown bars • Numerous small black spots on along brown bars
- D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Fiji)
- H Coral and rocky reefs in depths of 80–130 m
- S 39 cm SL
- R Marketed mainly fresh (H. Hata)



E. amblycephalus, UPVMI 161, 211.8 mm SL

Family Serranidae

Epinephelus areolatus

(Forskål 1775)

En Areolate Grouper

- C • XI, 15–17 dorsal-fin rays • III, 8 (rarely 7) anal-fin rays • Body pale, covered with close-set yellowish brown spots • Caudal fin emarginated, posterior edge white
- D Indo-West Pacific (South Africa to Japan and Fiji)
- H Coral and rocky reefs in shallower than depths of 200 m
- S 31 cm SL
- R Marketed mainly fresh (H. Hata)



E. areolatus, UPVMI 164, 241.6 mm SL

Family Serranidae

Epinephelus coioides

(Hamilton 1822)

En Orange-spotted Grouper

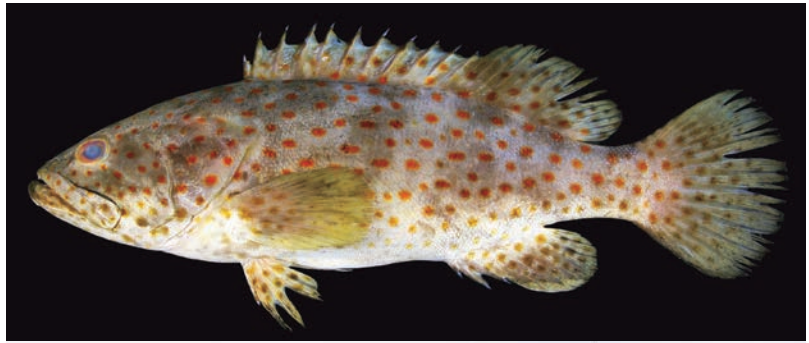
C • XI, 13–16 dorsal-fin rays • III, 8 anal-fin rays • 20 pectoral-fin rays • Body greenish brown with indistinct pale white bars • Numerous small orange spots scattered on body and fins

D Indo-West Pacific (South Africa to Japan and Fiji)

H Coral and rocky reefs in shallower than depths of 100 m, also entering estuaries

S 78 cm SL

R Marketed mainly fresh
(H. Hata)

*E. coioides*, UPVMI 163, 228.3 mm SL

Family Serranidae

Epinephelus corallicola

(Valenciennes 1828)

En Coral Grouper

C • XI, 15–17 dorsal-fin rays • III, 8 anal-fin rays • 17–20 pectoral-fin rays • Body pale gray with numerous blackish brown spots smaller than pupil • 3 black blotches on dorsal-fin base • Snout projecting

D Western Pacific (Gulf of Thailand to Japan, Solomon Islands, and eastern Australia)

H Coral and rocky reefs

S 39 cm SL

R Marketed mainly fresh
(H. Hata)

*E. corallicola*, UPVMI 980, 350.0 mm SL

Family Serranidae

Epinephelus epistictus

(Temminck & Schlegel 1842)

En Spottedback Grouper

C • XI, 13–15 dorsal-fin rays • III, 8 (rarely 7) anal-fin rays • Body light brown with small brownish black spots on dorsolateral part

D Indo-West Pacific (South Africa to Japan and Solomon Islands)

H Rocky reefs and muddy bottoms in depths of 43–290 m

S 67 cm SL

R Marketed mainly fresh
(H. Hata)

*E. epistictus*, UPVMI 1711, 240.3 mm SL



Family Serranidae

Epinephelus fasciatus
(Forskål 1775)

 Blacktip Grouper

C • XI, 15–17 dorsal-fin rays • III, 7–8 anal-fin rays
• Body red with five rose red vertical bands • Dorsal margin of spinous portion of dorsal fin black • Caudal fin rounded

D Indo-Pacific (South Africa to Japan and Pitcairn Islands)

H Rocky and coral reefs in depths of shallower than 160 m

S 40 cm SL

(H. Hata)



E. fasciatus, UPVMI 145, 165.8 mm SL

Family Serranidae

Epinephelus heniochus
(Valenciennes 1828)

 Bridled Grouper

C • XI, 14–15 dorsal-fin rays
• III, 8 anal-fin rays • 89–100 longitudinal scale series
• 54–62 pored lateral-line scales • Body light brown uniformly • 3 brown stripes on head • Caudal fin rounded

D Western Pacific (Indonesia to Korea and New Britain)

H Mud or silty sand bottom in depths of 40–235 m

S 35 cm SL

(H. Hata)



E. heniochus, UPVMI 1710, 197.9 mm SL

Family Serranidae

Epinephelus latifasciatus
(Temminck & Schlegel 1842)

 Banded Grouper

C • XI, 12–14 dorsal-fin rays • III, 7–8 anal-fin rays
• 17–19 pectoral-fin rays • 91–106 longitudinal scale series • 56–65 pored lateral-line scales • Body grayish brown with three broken longitudinal lines of black spots on upper part in adults • 2 black margined white broad longitudinal bands on upper part of body in juveniles

D Indo-West Pacific (Read Sea to Korea and Indonesia)

H Mud or silty sand bottoms or rocky reefs in depths of 20–230 m

S 1.4 m SL

(H. Hata)



E. latifasciatus, UPVMI 770, 132.0 mm SL

Family Serranidae

Epinephelus merra

Bloch 1793

En Dwarf Spotted Grouper

C • XI, 15–17 dorsal-fin rays • III, 8–9 anal-fin rays • 16–18 pectoral-fin rays • 98–114 longitudinal scale series • 48–53 pored lateral-line scales • Body whitish light brown with numerous close-set hexagonal dark brown blotches, a few blotches joined, forming bands

D Indo-Pacific (South Africa to Japan and Pitcairn Islands, except for Red Sea)

H Coral reefs

S 25 cm SL

(H. Hata)

*E. merra*, KAUM-I. 62940, 152.0 mm SL

Family Serranidae

Epinephelus morrhua

(Valenciennes 1833)

En Comet Grouper

C • XI, 14–15 dorsal-fin rays • III, 7–8 anal-fin rays • 17–18 pectoral-fin rays • 108–125 longitudinal scale series • 55–64 pored lateral-line scales • Body pale brown with two narrow dark brown arc-shaped bands from posterior margin of eye to caudal peduncle • 3 oblique lines on upper part of body

D Indo-Pacific (Mozambique to Japan and Cook Islands)

H Rocky reefs in depths of 80–370 m

S 75 cm SL

(H. Hata)

*E. morrhua*, UPVMI 882, 296.4 mm SL

Family Serranidae

Epinephelus ongus

(Bloch 1790)

En Specklefin Grouper

C • XI, 14–16 dorsal-fin rays • III, 8 anal-fin rays • 15–17 pectoral-fin rays • 90–109 longitudinal scale series • 48–53 pored lateral-line scales • Body and fins pale purple and whitish ventrally with white numerous narrow vermicular markings • Caudal fin, soft portions of dorsal and anal fins margined black band and narrow white stripe

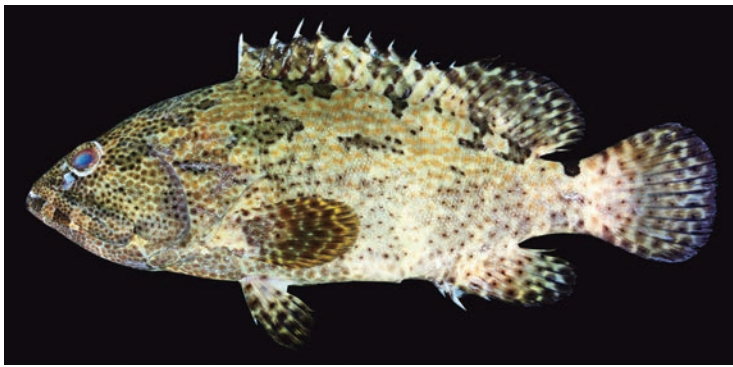
D Indo-West Pacific (Mozambique to Japan and Fiji, except for Red Sea)

H Coral reefs in depths of 5–39 m

S 25 cm SL

(H. Hata)

*E. ongus*, UPVMI 162, 226.9 mm SL



E. polyphkadion, UPVMI 1696, 223.3 mm SL

Family Serranidae

Epinephelus polyphkadion

(Bleeker 1849)

En Camouflage Grouper

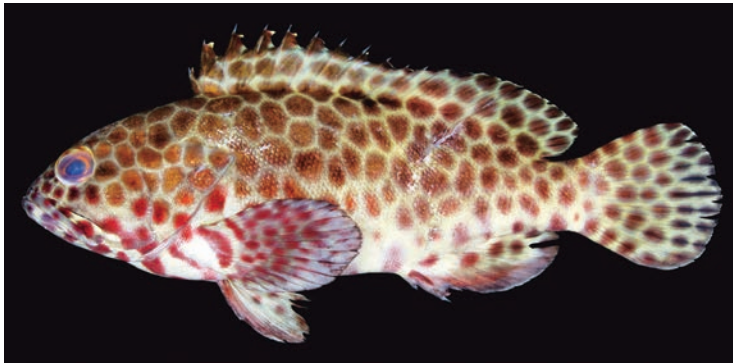
C • XI, 14–15 dorsal-fin rays • III, 8 anal-fin rays • 16–18 pectoral-fin rays • 95–113 longitudinal scale series • 47–53 pored lateral-line scales • Large black saddle-like spot on caudal peduncle • Body densely covered with small brownish orange spots • Ground color of pectoral fin pale yellow

D Indo-Pacific (Mozambique to Japan and French Polynesia)

H Coral reefs in shallower than depths of 20 m

S 61 cm SL

(H. Hata)



E. quoyanus, UPVMI 979, 220.7 mm SL

Family Serranidae

Epinephelus quoyanus

(Valenciennes 1830)

En Longfin Grouper

C • XI, 16–18 dorsal-fin rays • III, 8 anal-fin rays • 16–19 pectoral-fin rays • 80–96 longitudinal scale series • 47–52 pored lateral-line scales • Body whitish light brown with numerous close-set hexagonal dark brown blotches • Outer margin of anal fin black • 2 oblique bands on thorax

D Eastern Indian and western Pacific oceans (Andaman Is. to Japan and eastern coast of Australia)

H Silty reefs in shallower than depths of 50 m

S 31 cm SL

(H. Hata)



Family Serranidae

Epinephelus radiatus

(Day 1867)

En Oblique-Banded Grouper

C • XI, 13–15 dorsal-fin rays • III, 8 anal-fin rays • 17–18 pectoral-fin rays • 102–120 longitudinal scale series • 52–67 pored lateral-line scales • Body pale brown with five irregular dark brown bands passing diagonally downward and forward from upper edge of body

D Indo-West Pacific (Red Sea and Réunion to Japan and Papua New Guinea)

H Rocky reefs in depths of 17–383 m

S 58 cm SL

(H. Hata)



E. radiatus, UPVMI 235, 158.8 mm SL

Family Serranidae

Epinephelus sexfasciatus

(Valenciennes 1828)

En Sixbar Groupers

C • XI, 14–16 dorsal-fin rays • III, 8 anal-fin rays • 17–19 pectoral-fin rays • 82–96 longitudinal scale series • 46–51 pored lateral-line scales • 20–23 gill rakers • Dark bands on body divided by vertical whitish band or series of whitish spots • Small black spots on caudal in and soft portion of dorsal and anal fins

D Vietnam and Philippines to northern Australia

H Silty and muddy bottoms in depths of 10–80 m

S 28 cm SL

(H. Hata)

*E. sexfasciatus*, UPVMI 166, 174.7 mm SL

Family Serranidae

Epinephelus undulosus

(Quoy & Gaimard 1824)

En Wavy-lined Groupers

C • XI, 17–19 dorsal-fin rays • III, 8 anal-fin rays • 18–19 pectoral-fin rays • 63–76 longitudinal scale series • 124–150 pored lateral-line scales • 20–23 gill rakers • Membrane of spinous portion of dorsal fin not incised • Body purplish gray with numerous narrow wavy longitudinal lines

D Indo-West Pacific (Somalia to Solomon Is. and Philippines, except for Red Sea)

H Offshore banks in depths of 24–90 m

S 75 cm SL

(H. Hata)

*E. undulosus*, UPVMI 1212, 344.7 mm SL

Family Serranidae

Gracilla albomarginata

(Fowler & Bean 1930)

En Slenderspine Groupers

C • IX, 14–16 dorsal-fin rays • III, 9–10 anal-fin rays • 18–19 pectoral-fin rays • 66–76 longitudinal scale series • 110–117 pored lateral-line scales • Caudal fin truncate • Body dark brown with numerous narrow dark blue vertical bars • Narrow longitudinal blue stripes on head

D Indo-Pacific (Comoro Is. to Japan and Marquesas Is.)

H Outer reef slope in depths of 15–120 m

S 60 cm SL

(H. Hata)

*G. albomarginata*, UPVMI 1692, 267.1 mm SL



O. unimaculatus, KAUM-I. 56025, 129.7 mm SL

Family Serranidae

Odontanthias unimaculatus

(Tanaka 1917)

En —

C • X, 14 dorsal-fin rays • III, 7 anal-fin rays • 18–19 pectoral-fin rays • 36–37 scales on lateral line • 13–14 + 29 gill rakers • Body yellow dorsally grading to pale pink ventrally • Yellow stripe from upper lip to posterior margin of opercle • Dorsal, pelvic, anal and caudal fins yellow with pink outer margin

D Japan, Taiwan, Philippines, and Indonesia

H Rocky reefs in depths of 60–192 m

S 14 cm SL

R The present specimen represents the second record of this species from the Philippines after Randall & Heemstra (2006) who reported it from Lubang I.

(H. Hata)

Family Serranidae

Plectropomus laevis

(Tanaka 1917)

En Blacksaddled Coralgroupier

C • VIII, 11 dorsal-fin rays • III, 7 anal-fin rays • 16–18 pectoral-fin rays • 92–115 lateral-line scales • 123–153 longitudinal scale series • 1–3 + 4–10 gill rakers • Caudal fin truncate, its length 1.45–1.75 in head length • Two body color phases: white with 5 dark brown saddle-like bars; red with numerous dark edged blue spots

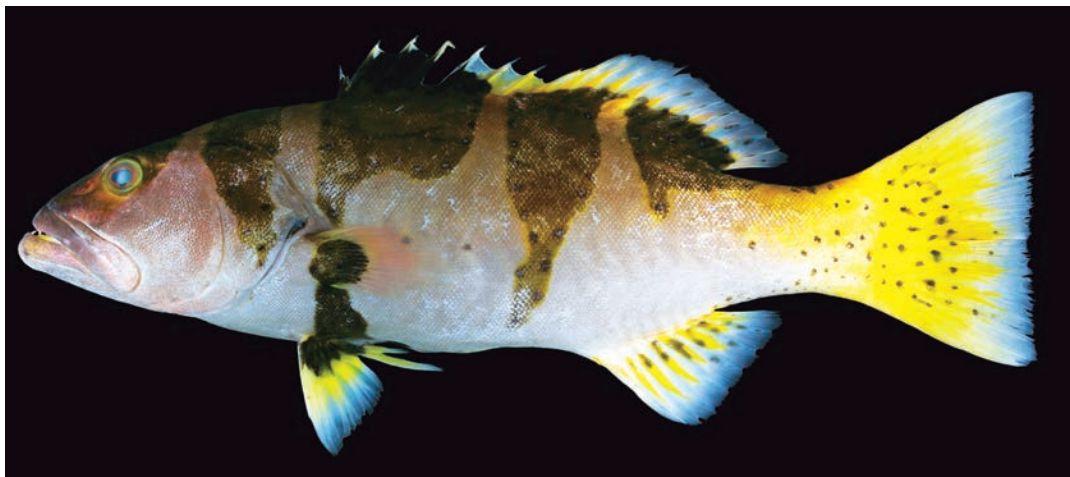
D Indo-Pacific (eastern coast of Africa to Japan and Tuamotu Is., except for Red Sea)

H Rocky and coral reefs in depths of 4–90 m

S 1 m SL

R It is considered that juveniles may be mimics of the poisonous pufferfish *Canthigaster valentini* (Bleeker 1853)

(H. Hata)



P. laevis, UPVMI 562, 221.0 mm SL

*P. leopardus*, UPVMI 1644, 192.5 mm SL

Family Serranidae

Plectropomus leopardus

(Lacepède 1802)

En Leopard Coralgrouper

C • VII–VIII, 10–12 dorsal-fin rays • III, 8 anal-fin rays • 15–17 pectoral-fin rays • 89–99 lateral-line scales • 112–127 longitudinal scale series • 1–3 + 6–10 gill rakers • Caudal-fin emarginate, its length 1.3–1.55 in head length • Pectoral-fin length 1.9–2.2 in head length • Pelvic-fin length 1.9–2.2 in head length • Body red with numerous small blue spots

D Western Pacific (Taiwan to northern Australia and Fiji)

H Coral reefs in shallower than depths of 100 m

S 70 cm SL

R Common around Panay I. (H. Hata)

*P. leopardus*, UPVMI 147, 204.4 mm SL

Family Serranidae

Plectropomus maculatus

(Bloch 1790)

En Spotted Coralgrouper

C • VII–VIII, 10–12 dorsal-fin rays • III, 8 anal-fin rays • 15–17 pectoral-fin rays • 88–101 lateral-line scales • 123–132 longitudinal scale series • 1–3 + 6–9 gill rakers • Caudal-fin truncate, its length 1.3–1.5 in head length • Pectoral-fin length 1.9–2.2 in head length • Pelvic-fin length 1.7–2.2 in head length • Body red with numerous small dark edged blue spots • Pelvic fin without spots • Some spots anteriorly on side of body horizontally elongate in adults

D Western Pacific (Thailand and Indonesia to Philippines, Papua New Guinea, and Australia)

H Coral reefs in shallower than depths of 50 m

S 125 cm SL

(H. Hata)

*P. maculatus*, UPVMI 1649, 199.6 mm SL



P. oligacanthus, UPVMI 144, 248.1 mm SL

Family Serranidae

Plectropomus oligacanthus

(Bleeker 1854)

En Highfin Coralgrouper

C • VII–VIII, 10–12 dorsal-fin rays • III, 8 anal-fin rays • 14–16 pectoral-fin rays • 86–96 lateral-line scales • 115–126 longitudinal scale series • 1–3 + 7–9 gill rakers • Anterior soft portions of dorsal and anal fins distinctly elevated • Vertical blue lines anteriorly on side of body and long horizontal to oblique dark lines on head in adults

D Western Pacific (Caroline Is. to Indonesia)

H Coral reefs in shallower than at depths of 40 m

S 75 cm SL

(H. Hata)



P. oligacanthus, UPVMI 1641, 213.4 mm SL

Family Serranidae

Pseudanthias rubrizonatus

(Randall 1983)

En Red-belted Anthias

C • X, 16–17 dorsal-fin rays • III, 7–8 anal-fin rays • 18–20 pectoral-fin rays • 10–12 + 25–29 gill rakers • 41–47 scales on lateral line • Body pinkish orange with broad vertical band in males • Body pinkish orange, two orange spots on caudal-fin tip in females

D Eastern Indian and western Pacific oceans (Andaman Is. to Japan and Fiji)

H Rocky or coral reefs in shallower than depths of 133 m

S 9 cm SL

(H. Hata)



P. rubrizonatus, UPVMI 1276, 71.1 mm SL

Family Serranidae

Variola albimarginata

Baissac 1952

En Lyretail Grouper

C • Posterior margin of caudal fin white • Dorsal, anal, and pectoral fins without distinct yellow posterior borders • Pelvic fin usually not reaching to anus • No dark strip on upper side or dark spot at upper base of caudal fin in juveniles

D Indo-West Pacific (Réunion to Japan and Samoa)

H Rocky or coral reefs in shallower than depths of 240 m

S 32 cm SL

R Although poisonous individuals are rare, an individual causing ciguatera was reported by Oshiro et al. (2010)

(H. Hata)



V. albimarginata, UPVMI 143, 200.9 mm SL

*S. katayamai*, KAUM-I. 62944, 148.0 mm SL

Family Symphysanodontidae
Symphysanodon katayamai
Anderson 1970

En —

C • III, 7 anal-fin rays • 50–55 pored lateral-line scales

• 11–12 + 22–24 gill rakers
• Body with a longitudinal yellow band
D Western Pacific (Japan to Indonesia), Hawaiian Is.

H Rocky reefs

S 31 cm TL

R The present specimens represent the first records of the species from the Philippines

(S. Tashiro)



KAUM-I. 56003, 159.4 mm SL

*O. hongkongiensis*, KAUM-I. 69458, 110.7 mm SL

Family Opistognathidae

Opistognathus hongkongiensis

Chan 1968

En —

C • XI, 11 dorsal-fin rays • II, 11 anal-fin rays
• Posterior end of upper jaw not reaching preopercle
• Body with six brown vertical bands

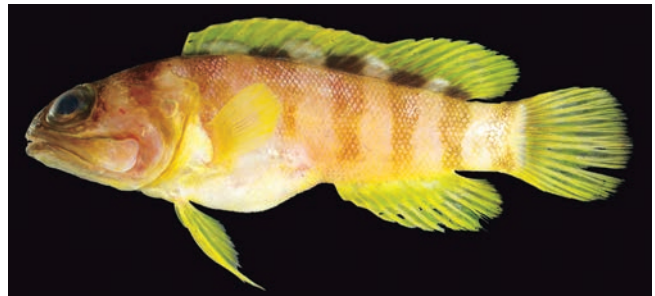
D Hong Kong and Philippines

H Sandy or rubble bottoms

S 15 cm SL

R Previously known only from off Hong Kong; the present specimens represent the first records of the species from the Philippines

(S. Tashiro)

*O. hongkongiensis*, KAUM-I. 69449, 112.2 mm SL



C. japonicus, UPVMI 181, 249.0 mm SL

Family Priacanthidae

Cookeolus japonicus

(Cuvier 1829)

En Longfin Bulleye

- C** • X, 12–13 dorsal-fin rays • Pelvic fin very long, its length greater than head length
- D** Circumglobal in tropical to temperate seas
- H** Rocky reefs in deep waters
- S** 60 cm TL

(K. Kawama)

Family Priacanthidae

Heteropriacanthus cruentatus

(Lacepède 1801)

En Glasseye

- C** • X, 12–13 dorsal-fin rays • A strong spine at angle of preopercle • Soft-rayed portions of dorsal and anal fins and caudal fin with numerous dark red spots
- D** Circumglobal in tropical to temperate seas
- H** Rocky reefs in shallow waters
- S** 35 cm TL

(K. Kawama)



H. cruentatus, KAUM-I. 91867, 179.5 mm SL

Family Priacanthidae

Priacanthus blochii

Bleeker 1853

En Shortfin Bigeye

- C** • X, 12–14 dorsal-fin rays
- Body somewhat slender and compressed
- Pectoral-fin length 1.9–2.2 in head length
- Caudal fin convex
- Pelvic-fin base with a distinct black blotch
- D** Indo-West Pacific (Gulf of Aden and Seychelles to Japan and Samoa)
- H** Rocky reefs in shallower than 30 m depth
- S** 30 cm TL

(K. Kawama)



P. blochii, KAUM-I. 91868, 181.8 mm SL

Family Priacanthidae

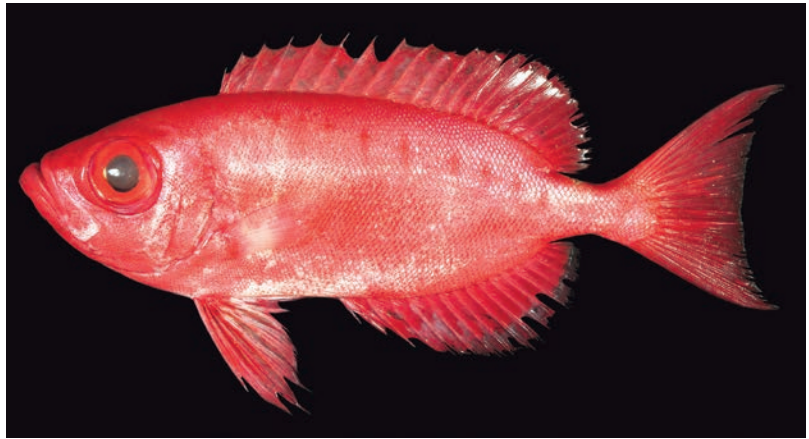
Priacanthus hamrur

(Forsskål 1775)

En Moontail Bullseye

- C** • X, 13–15 dorsal-fin rays
 • Body and fins reddish, with dark blotches along lateral line
 • Caudal fin truncate or somewhat concave with a lunate margin
- D** Indo-Pacific (east coast of Africa and Red Sea to French Polynesia)
- H** Coral and rocky reefs, commonly found shallower than 50 m
- S** 36 cm TL

(K. Kawama)

*P. hamrur*, KAUM-I. 91757, 251.4 mm SL

Family Priacanthidae

Priacanthus macracanthus

Cuvier 1829

En Brownsport Bigeye

- C** • X, 12–14 dorsal-fin rays
 • Dorsal, anal, and pelvic fins with yellowish brown spots
 • A strong spine at angle of preopercle
- D** Eastern Indian and western Pacific oceans (Andaman Sea to Japan and New Caledonia)
- H** 15 to 400 m depths
- S** 35 cm TL

(K. Kawama)

*P. macracanthus*, UPVMI 168, 175.6 mm SL

Family Priacanthidae

Priacanthus sagittarius

Starnes 1988

En Arrowfin Bigeye

- C** • X, 13–14 dorsal-fin rays
 • Body relatively deep
 • Pelvic fin long, with a black spot basally
 • Caudal fin convex
- D** Indo-West Pacific (Red Sea and Réunion to Japan and Samoa)
- H** Usually found at depths of 60–100 m in rocky and open bottom areas
- S** 34 cm TL

(K. Kawama)

*P. sagittarius*, UPVMI 167, 159.4 mm SL



P. tayenus, UPVMI 266, 137.9 mm SL

Family Priacanthidae

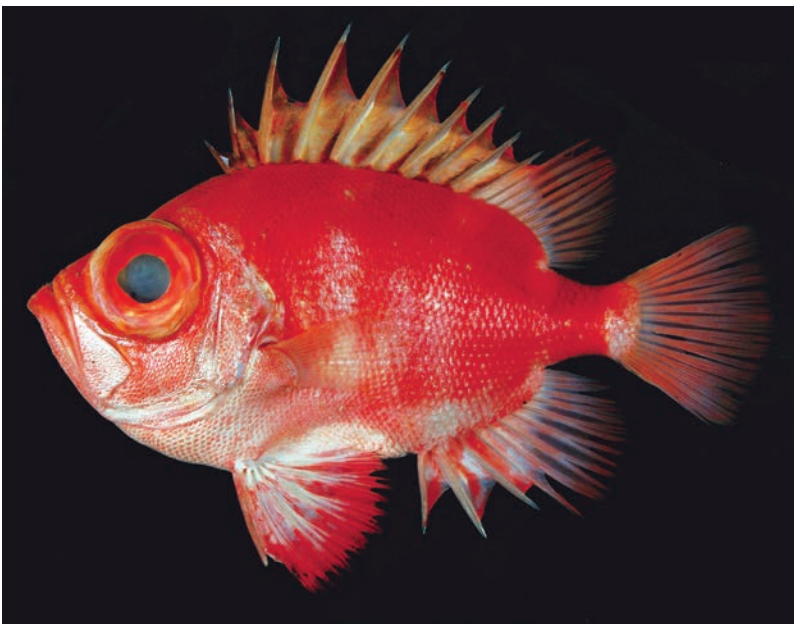
Priacanthus tayenus

Richardson 1846

Purplespot Bigeye

- X, 11–13 dorsal-fin rays
- Pelvic fin with deep purple to black spots
- Northern Indian and western Pacific oceans (Persian Gulf to Taiwan and Solomon Is.)
- Sandy and rocky shores
- 29 cm TL

(K. Kawama)



P. nipponia, KAUM-I. 51656, 143.8 mm SL

Family Priacanthidae

Pristigenys nipponia

(Cuvier 1829)

Whiteband Bigeye

- X, 11 dorsal-fin rays ● Body deep, with large scales
- Head and body dark red to reddish orange ● 4 or 5 light bars on head and body, becoming narrower with growth ● Posterior margins of dorsal, anal, and caudal fins black
- Indo-West Pacific (east coast of Africa and Red Sea to Japan and Samoa)
- Deep rocky waters
- 34 cm TL

(K. Kawama)



A. polyacanthus, KAUM-I. 80795, 134.8 mm SL

Family Apogonidae

Amioides polyacanthus

(Vaillant 1877)

Deep-water Cardinalfish

- 7 first dorsal-fin spines ● 13–14 pectoral-fin rays ● 2 + 9 gill rakers on first gill arch
- Canine teeth in both jaws ● Brown stripe on mid-lateral surface of body ● Greenish vertical bar on caudal peduncle
- Indo-West Pacific (Madagascar to Japan and Vanuatu)
- Drop-off and caves in depths of 75–276 m
- 20 cm TL

Commercial fish in Panay I. (T. Yoshida)

Family Apogonidae

Apogonichthyoides niger

(Döderlein 1883)

En —

C • 7 first dorsal-fin spines
 • 15 pectoral-fin rays • Body deep and relatively compressed • Posterior tip of depressed pelvic fin beyond anal-fin origin

D Western Pacific (Japan to Philippines)

H Muddy or sandy bottoms

S 10 cm SL

R Inhabits solitary

(T. Yoshida)

*A. niger*, KAUM-I. 62911, 33.5 mm SL

Family Apogonidae

Fibramia lateralis

(Valenciennes 1832)

En Coastal Cardinalfish

C • 6 first dorsal-fin spines
 • 14 pectoral-fin rays • 5–7 + 16–18 gill rakers on first gill arch • Narrow black midlateral stripe • Small black spot on middle of posterior end of caudal peduncle

D Indo-West Pacific (east coast of Africa to Japan and Samoa)

H Coastal reefs

S 10 cm TL

R Forms aggregations

(T. Yoshida)

*F. lateralis*, KAUM-I. 57198, 51.8 mm SL

Family Apogonidae

Jaydia albomarginata

(Smith & Radcliffe 1912)

En —

C • 7 first dorsal-fin spines
 • 2 + 9 developed gill rakers
 • 4 + 11 total gill rakers • Anterior part of pelvic and anal fins white • Lower edge of caudal fin white

D Western Pacific (Japan to Indonesia)

H Muddy or sandy bottoms

S 6 cm SL

R Common around Panay I. and frequently seen at markets

(T. Yoshida)

*J. albomarginata*, KAUM-I. 69402, 85.4 mm SL



J. poecilopterus, KAUM-I. 80824, 96.2 mm SL

Family Apogonidae

Jaydia poecilopterus

(Cuvier 1828)

En Pearly-finned Cardinalfish

C • 7 first dorsal-fin spines
• 4–5 predorsal scales • 1–2 + 9–11 developed gill rakers
• 3–4 + 10–13 total gill rakers
• Body with series of dark golden spots, forming irregular lines
• Anal fin with black pigments, forming a band

D Eastern Indian and western Pacific oceans (India to China and Papua New Guinea)

H Muddy or sandy bottoms

S 10 cm SL

R Common around Panay I. and frequently seen at markets (T. Yoshida)



J. smithi, KAUM-I. 69461, 89.4 mm SL

Family Apogonidae

Jaydia smithi

(Kotthaus 1970)

En Smith's Cardinalfish

C • 7 first dorsal-fin spines
• 3–5 predorsal scales • 1 + 9–11 developed gill rakers
• 3–5 + 10–13 total gill rakers
• Body with 4–6 black bars
• Anal fin dusky without black stripe

D Indo-West Pacific (Red Sea to Taiwan and Marshall Is.)

H Muddy or sandy bottoms

S 10 cm SL

R Common around Panay I. and frequently seen at markets (T. Yoshida)



J. striatodes, UPVMI 201, 44.2 mm SL

Family Apogonidae

Jaydia striatodes

(Gon 1997)

En —

C • 7 first dorsal-fin spines
• 4 predorsal scales • 2–3 + 11–12 developed gill rakers
• 4–5 + 12–14 total gill rakers
• Body with 7–11 black bars
• Anal fin with black band distally

D Eastern Indian and western Pacific oceans (Andaman Sea to Hong Kong and Philippines)

H Muddy or sandy bottoms

S 6 cm SL

R Common around Panay I. and frequently seen at markets (T. Yoshida)



J. striatodes, UPVMI 200, 47.0 mm SL



J. striatodes, UPVMI 202, 30.0 mm SL

Family Apogonidae

Jaydia truncatus

(Bleeker 1855)

En Flagfin Cardinalfish

C • 7 first dorsal-fin spines
 • 3–4 predorsal scales • 1 + 9–10 developed gill rakers • 3–5 + 11–14 total gill rakers
 • Body with 4–6 black bars
 • Anal fin with black band medially

D Indo-West Pacific (Persian Gulf to Japan and Papua New Guinea)

H Muddy or sandy bottoms

S 10 cm SL

R Common around Panay I. and frequently seen at markets (T. Yoshida)

*J. truncatus*, KAUM-I. 56091, 119.4 mm SL

Family Apogonidae

Ostorhinchus cavitensis

(Jordan & Seale 1907)

En Cavite Cardinalfish

C • 7 first dorsal-fin spines
 • 14 pectoral-fin rays • 4–5 + 13–14 gill rakers on first gill arch • Golden stripe from snout to caudal-fin base • Black spot on middle of posterior end of caudal peduncle

D Eastern Indian and western Pacific oceans (Indonesia to Vietnam and Australia)

H Silty coastal reefs

S 8 cm TL

(T. Yoshida)

*O. cavitensis*, KAUM-I. 56037, 55.5 mm SL

Family Apogonidae

Ostorhinchus fasciatus

(Shaw 1790)

En Broadbanded Cardinalfish

C • 7 first dorsal-fin spines
 • 16 pectoral-fin rays • 14–17 developed gill rakers
 • No vertical bars on middle of body below longitudinal stripe

D Indo-West Pacific (east coast of Africa to Japan and Australia)

H Sandy bottoms

S 5 cm SL

R Common around Panay I. and frequently seen at markets (T. Yoshida)

*O. fasciatus*, KAUM-I. 69403, 108.9 mm SL



O. nigrocincta, KAUM-I. 56097, 74.9 mm SL

Family Apogonidae

Ostorhinchus nigrocincta

(Smith & Radcliffe 1912)

En Blackbelt Cardinalfish

- C • 7 first dorsal-fin spines
- 14 pectoral-fin rays • 6 + 16 gill rakers on first gill arch
- Vertical dark bar on caudal peduncle • Small black spot on middle of posterior end of caudal peduncle

D Western Pacific (Philippines to Indonesia)

H Sandy bottoms

S 9 cm TL

(T. Yoshida)



O. pleuron, KAUM-I. 56034, 42.6 mm SL

Family Apogonidae

Ostorhinchus pleuron

(Fraser 2005)

En Rib-bar Cardinalfish

- C • 7 first dorsal-fin spines • 15 pectoral-fin rays • 17–20 developed gill rakers • Dark brown stripes and vertical bars

D Eastern Indian and western Pacific oceans (India to Taiwan and New Guinea)

H Bottoms in open waters

S 5 cm SL

R Common around Panay I. and frequently seen at markets

(T. Yoshida)



O. pleuron, KAUM-I. 57171, 56.9 mm SL

Family Apogonidae

Rhabdamia spilota

Allen & Kuiter 1994

En Glassy Cardinalfish

- C • 6 first dorsal-fin spines • 13 pectoral-fin rays • 12 anal-fin rays • 7 + 22 developed gill rakers • Mid-lateral series of black spots above pectoral fin

D Red Sea, Indonesia, and Philippines

H Shallow waters

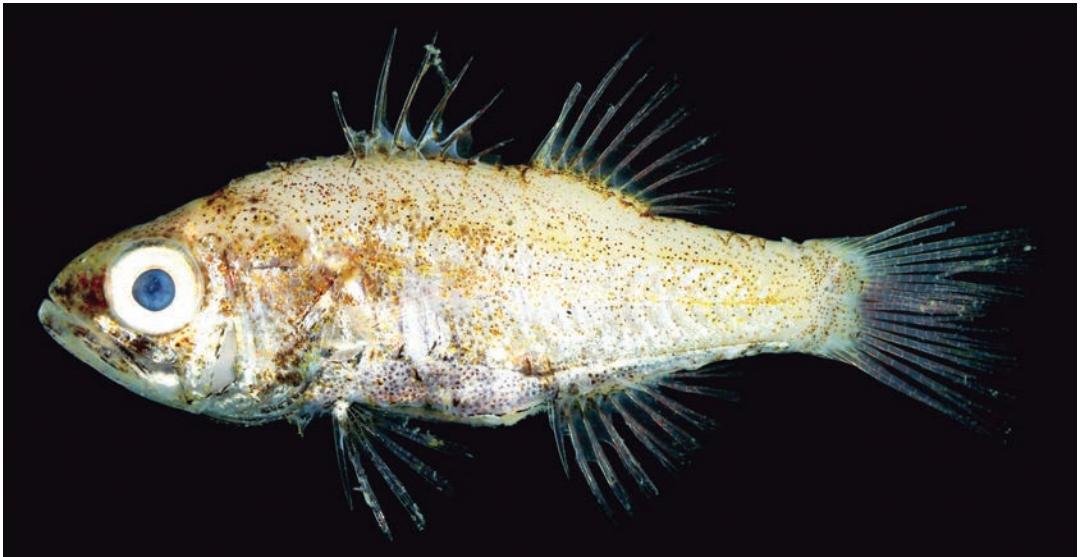
S 6 cm TL

R Forming small groups

(T. Yoshida)



R. spilota, KAUM-I. 63043, 55.5 mm SL

*S. elongata*, KAUM-I. 56033, 36.6 mm SL

Family Apogonidae

Siphamia elongata

Lachner 1953

En Elongate Siphonfish

C • 7 first dorsal-fin spines • 11–12 pectoral-fin rays • 14–23 pored lateral-line scales • Light organ with scattered dark blown blotches • Body silver with numerous dark blown blotches

D Brunei and Philippines**H** Sandy and coral bottoms**S** 4 cm SL**R** Rare in museum collections

(T. Yoshida)

*S. elongata*, KAUM-I. 52617, 40.3 mm SL

Family Apogonidae

Taeniamia fucata

(Cantor 1849)

En Orangelined Cardinalfish

C • 6 first dorsal-fin spines • 14 pectoral-fin rays • 15–17 anal-fin rays • Body compressed • Large black spot on caudal-fin base

D Indo-West Pacific (east coast of Africa to Japan and Samoa)**H** Coral and rocky reefs**S** 7 cm SL

(T. Yoshida)

*T. fucata*, KAUM-I. 57166, 67.3 mm SL

Family Apogonidae

Verulux cypselurus

(Weber 1909)

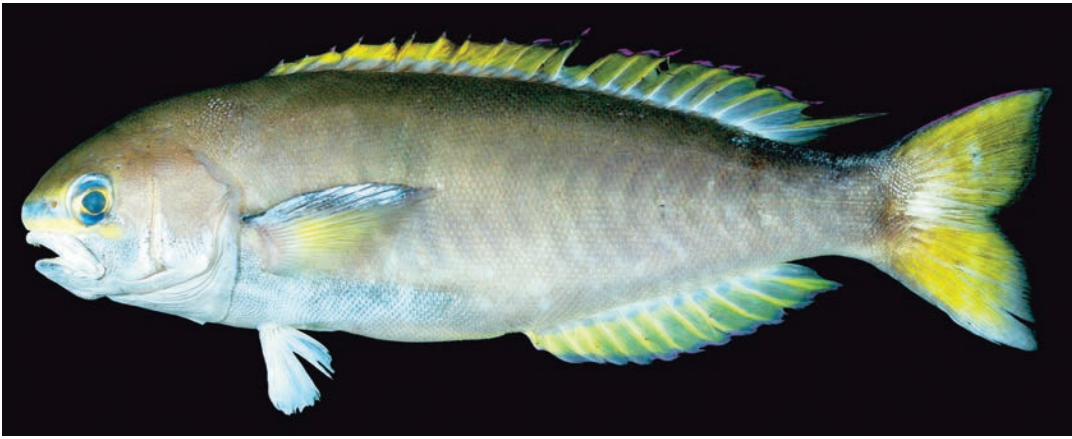
En Swallow-tail Cardinalfish

C • 6 first dorsal-fin spines • 15 pectoral-fin rays • 9 anal-fin rays • Luminous organ under cleithrum • Black longitudinal band on each caudal-fin lobe

D Indo-West Pacific (east coast of Africa to Japan and Solomon Is.)**H** Coastal rocky reefs**S** 5 cm SL**R** Forming aggregations

(T. Yoshida)

*V. cypselurus*, UPVMI 180, 27.8 mm SL

*H. randalli*, KAUM-I. 52619, 168.7 mm SL*H. randalli*, KAUM-I. 51650, 159.6 mm SL

Family Malacanthidae

Hoplolatilus randalli

Allen, Erdmann & Hamilton 2010

En Randall's Tilefish

C • X, 13 dorsal-fin rays
 • 84–92 pored lateral-line scales • Blue dorsal saddle on caudal peduncle

D Indonesia, Philippines, Micronesia, and Solomon Is.

H Rubble slopes

S 16 cm SL

(T. Yoshida)

*E. naucrates*, UPVMI 579, 347.1 mm SL

Family Echeneidae

Echeneis naucrates

Linnaeus 1758

En Sharksucker

C • 34–42 dorsal-fin rays • 31–41 anal-fin rays • 18–28 sucking-disk laminae • Body gray to blackish, with a white-edged black stripe from tip of lower jaw to caudal-fin base

D Worldwide in tropical to temperate seas, except for Pacific coast of America

H Attaching temporarily to a wide variety of hosts such as sharks, sea turtles, and ships

S 1 m SL

R Unlike most other remoras, *E. naucrates* is often found free swimming and in inshore waters

(K. Kawama)

*R. canadum*, UPVMI 1214, 412.6 mm SL

Family Rachycentridae

Rachycentron canadum

(Linnaeus 1766)

En Cobia

C • 7–9 dorsal-fin spines not connected by membrane • 26–33 dorsal-fin rays • Body elongate, subcylindrical • Head broad and depressed • Body grayish to blackish dorsally, whitish to grayish ventrally, with a pale gray stripe from front of snout through eye to upper caudal peduncle and a faint dark stripe on lower side of trunk

D Nearly worldwide in tropical to temperate waters, except for eastern Pacific Ocean

H Found in variety of habitats

S 2 m SL

R Excellent food and game fish

(K. Kawama)

*C. equiselis*, UPVMI 594, 257.9 mm SL

Family Coryphaenidae

Coryphaena equiselis

Linnaeus 1758

En Pompano Dolphinfish

C • 52–59 dorsal-fin rays
 • Pectoral-fin length about half of head length
 • Back brilliant metallic blue-green in life, fading rapidly after death to green tinge
 • Side silvery with a golden sheen and numerous black spots

D Worldwide in most tropical and subtropical seas

H Mainly open waters, but also coasts

S 75 cm SL

R Caught mainly by trolling and floating lines

(K. Kawama)

*C. hippurus*, UPVMI 636, 592.0 mm SL

Family Coryphaenidae

Coryphaena hippurus

Linnaeus 1758

En Common Dolphinfish

C • 58–66 dorsal-fin rays
 • Pectoral-fin length more than half of head length
 • Head profile becoming vertical with development of a bony crest in larger males more than 30 cm SL

D Worldwide in tropical and subtropical seas

H Mainly open waters, but also coasts

S 2 m SL

R Highly appreciated food fish

(K. Kawama)

*M. maculate*, UPVMI 172, 99.7 mm SL

Family Menidae

Mene maculate

(Bloch & Schneider 1801)

En Moonfish

C • 40–45 dorsal-fin rays

• Body extremely deep and compressed

• Anal-fin base very long
 • Upper sides deep metallic blue, remainder silvery, with a row of round to ovoid, dark blue spots above and below lateral line

D Indo-West Pacific (East

Africa to Japan and Australia)

H Coastal waters near the bottom to depth of 200 m

S 30 cm SL

R Caught in trawls and beach seines

(K. Kawama)



A. ciliaris, KAUM-I. 63028, 72.6 mm SL

Family Carangidae

Alectis ciliaris

(Bloch 1787)

 African Pompano

C • Profile of forehead slightly convex • Dorsal-fin spines very short or embedded • Suborbital depth narrower than upper-jaw length

D Worldwide in tropical seas

H Coastal waters

S 1 m SL

(S. Kimura)

Family Carangidae

Alectis indicus

(Rüppel 1830)

 Indian Threadfish

C • Profile of forehead slightly concave • Dorsal-fin spines very short or embedded • Suborbital depth same as or broader than upper-jaw length

D Indo-West Pacific (East Africa to Japan and New Guinea)

H Coastal waters

S 1.2 m SL

(S. Kimura)



A. indicus, UPVMI 564, 108.7 mm SL




A. djedaba, UPVMI 598, 211.6 mm SL

Family Carangidae

Alepes djedaba

(Forsskål 1775)

 Shrimp Scad

C • 39–51 scutes on straight part of lateral line • Upper-jaw teeth uniserial • Adipose eyelid well developed posteriorly • Distinct black blotch on upper opercular margin

D Indo-West Pacific (East Africa to Japan and Philippines), eastern Mediterranean (immigrant from the Red Sea)

H Coastal waters

S 30 cm SL

(S. Kimura)

Family Carangidae

Alepes kleini

(Bloch 1793)

En Banded Scad

C • 35–45 scutes on straight part of lateral line • Upper jaw with a band of minute conical teeth • Adipose eyelid well developed posteriorly • Distinct black blotch on upper opercular margin

D Indo-West Pacific (Pakistan to Japan and Australia)

H Coastal waters

S 15 cm SL

(S. Kimura)

*A. kleini*, UPVMI 600, 124.9 mm SL

Family Carangidae

Alepes melanoptera

(Swainson 1839)

En Blackfin Scad

C • 49–69 scutes on straight part of lateral line • Upper-jaw teeth uniserial • Distinct black blotch on upper opercular margin • Inter-radial membranes of spinous dorsal fin black

D Indo-West Pacific (Persian Gulf to Indonesia)

H Inshore waters

S 20 cm SL

(S. Kimura)

*A. kleini*, KAUM-I. 57210, 97.2 mm SL

Family Carangidae

Atule mate

(Cuvier 1833)

En Yellowtail Scad

C • Adipose eyelid well developed except for a vertical slit on mid-eye • Last dorsal- and anal-fin soft rays separated from penultimate rays, but joined by interradiial membrane • No papilla on lower shoulder girdle • No yellow midlateral stripe on body

D Indo-Pacific (East Africa to Hawaiian Is. and French Polynesia)

H Coastal waters at depths to 50 m

S 25 cm SL

(S. Kimura)

*A. melanoptera*, UPVMI 193, 149.3 mm SL*A. mate*, KAUM-I. 80850, 153.0 mm SL



C. dinema, UPVMI 1709, 279.6 mm SL

Family Carangidae

Carangichthys dinema

(Bleeker 1851)

📖 Shadow Trevally

- 📐 • 17–19 dorsal-fin soft rays
- Straight part of lateral line almost entirely with scutes (23–30)
- Anterior dorsal- and anal-fin rays elongate, filamentous
- Distinct dark blotches along second dorsal-fin base

🌐 Indo-Pacific (East Africa to Japan and Samoa)

🏠 Coastal waters

📏 50 cm SL

(S. Kimura)



C. oblongus, KAUM-I. 80875, 194.6 mm SL

Family Carangidae

Carangichthys oblongus

(Cuvier 1833)

📖 Coachwhip Trevally

- 📐 • 20–22 dorsal-fin soft rays
- Straight part of lateral line almost entirely with scutes (37–45)
- Anterior dorsal- and anal-fin rays elongate, filamentous
- Indistinct dark blotches along second dorsal-fin base (sometimes faded out)

🌐 Indo-West Pacific (East Africa to Japan and Fiji)

🏠 Coastal waters

📏 40 cm SL

(S. Kimura)



C. oblongus, UPVMI 276, 108.9 mm SL



C. oblongus, UPVMI 774, 152.4 mm SL



C. oblongus, UPVMI 1612, 87.0 mm SL

Family Carangidae

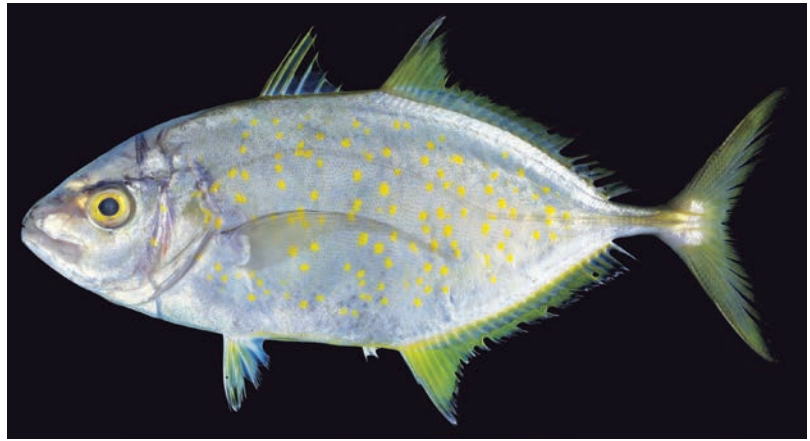
Carangoides bajad

(Forsskål 1775)

En Orangespotted Trevally

- C** • 21–24 anal-fin rays •
 Breast usually with a narrow
 naked area anteroventrally
 • Anterior straight part of
 lateral line without scutes
 • Numerous conspicuous
 orange-yellow spots on body
D Indo-West Pacific (Red Sea
 to Japan and New Britain)
H Coastal waters
S 45 cm SL

(S. Kimura)

*C. bajad*, KAUM-I. 80798, 194.8 mm SL

Family Carangidae

Carangoides coeruleopinnatus

(Rüppell 1830)

En Coastal Trevally

- C** • 20–23 anal-fin rays
 • 21–27 total gill rakers
 • Breast widely naked to
 pectoral-fin base and behind
 insertion of pelvic fins, but
 naked area not extending
 above pectoral-fin base, rarely
 scaly area present between
 pectoral-fin base and breast
 • Anterior straight part of
 lateral line without scutes
D Indo-Pacific (East Africa to
 Samoa)
H Somewhat deeper coastal
 waters
S 30 cm SL

(S. Kimura)

*C. coeruleopinnatus*, KAUM-I. 80778, 121.1 mm SL*C. coeruleopinnatus*, UPVMI 928, 238.7 mm SL*C. coeruleopinnatus*, UPVMI 1707, 351.9 mm SL



C. ferdau, UPVMI 924, 225.5 mm SL

Family Carangidae

Carangoides ferdau

(Forsskål 1775)

Blue Trevally

- 25–34 dorsal-fin rays
- Snout short, almost same in length as eye diameter
- Breast naked to insertion of pelvic fins, naked area not extending to pectoral-fin base
- Anterior straight part of lateral line without scutes
- 5–6 dusky vertical band laterally on body

Indo-Pacific (East Africa to Hawaii and French Polynesia)

Coastal waters near sandy beaches or reefs, shallower than 60 m depth

60 cm SL

(S. Kimura)



C. fulvoguttatus, KAUM-I. 80799, 202.4 mm SL

Family Carangidae

Carangoides fulvoguttatus

(Forsskål 1775)

Yellowspotted Trevally

- 21–26 anal-fin soft rays
- Profile of forehead almost straight or very slightly concave
- Ventral margin of eye above level of snout tip
- Breast naked to behind insertion of pelvic fins
- Anterior straight part of lateral line without scutes
- Many small yellow spots mainly dorsolaterally on body

Indo-West Pacific (East Africa to Japan and New Zealand)

Rocky and coral reefs, off-shore banks

90 cm SL

(S. Kimura)



C. fulvoguttatus, UPVMI 925, 240.0 mm SL

Family Carangidae

Carangoides gymnostethus
(Cuvier 1833)

En Bludger

C • 24–26 anal-fin soft rays
 • Profile of forehead slightly convex
 • Ventral margin of eye tangent or below level of snout tip
 • Breast naked to behind insertion of pelvic fins
 • Anterior straight part of lateral line without scutes
 • A few dark yellow spots laterally on body

D Indo-West Pacific (East Africa to Japan and Australia)

H Slightly deeper offshore reefs

S 75 cm SL

(S. Kimura)

*C. gymnostethus*, UPVMI 994, 293.2 mm SL

Family Carangidae

Carangoides hedlandensis
(Whitely 1934)

En Bumpnose Trevally

C • 20–27 total gill rakers
 • Profile of forehead convex with “bump” on interorbital space
 • Anterior dorsal- and anal-fin rays elongate, filamentous
 • Central soft rays of dorsal and anal fins produced into filaments in adult males
 • Breast naked to just pectoral-fin base (not exceeding the base) and behind insertion of pelvic fins
 • Anterior straight part of lateral line without scutes

D Indo-Pacific (East Africa to Japan and Samoa)

H Coastal waters, bottom dweller

S 25 cm SL

(S. Kimura)

*C. hedlandensis*, UPVMI 974, 200.2 mm SL*C. hedlandensis*, KAUM-I. 80777, 150.5 mm SL*C. hedlandensis*, UPVMI 1516, 173.7 mm SL



C. plagiotaenia, UPVMI 1129, 456.0 mm SL



C. plagiotaenia, UPVMI 1098, 207.1 mm SL

Family Carangidae

Carangoides plagiotaenia

Bleeker 1857

Barcheek Tревалли

- Lower jaw robust and projecting beyond upper jaw
- Breast completely scaly
- Anterior straight part of lateral line without scutes
- Black posterior margin of preopercle in adults

Indo-Pacific (East Africa to Japan and Samoa)

Outer reef areas

40 cm SL

(S. Kimura)



C. praeustus, UPVMI 1514, 177.3 mm SL

Family Carangidae

Carangoides praeustus

(Bennett 1830)

Brownback Tревалли

- Vomerine tooth patch arrowhead-shaped with a long posterior extension
- Breast almost completely scaly with very narrow naked area anteriorly
- Anterior straight part of lateral line without scutes
- Second dorsal-fin lobe jet-black distally with white tip

Indo-West Pacific (Persian Gulf to Philippines and Indonesia)

Coastal waters

20 cm SL

(S. Kimura)

Family Carangidae

Caranx heberi

(Bennett 1830)

En Blacktip Trevally

C • 19–21 dorsal-fin soft rays • 15–17 anal-fin soft rays • Dorsal profile of snout at 50° with longitudinal body axis • Breast naked ventrally with a small scale patch or almost completely scaly • Straight part of lateral line entirely with scutes • Upper caudal-fin lobe black distally

D Indo-West Pacific (East Africa to Japan and New Guinea)

H Clean open coastal waters, rocky reefs

S 70 cm SL

(S. Kimura)

*C. heberi*, UPVMI 976, 262.0 mm SL

Family Carangidae

Caranx ignobilis

(Forsskål 1775)

En Giant Trevally

C • 18–21 dorsal-fin soft rays • 15–17 anal-fin soft rays • Dorsal profile of snout at 60–70° with longitudinal body axis • Breast naked ventrally with a small scale patch or almost completely scaly • Straight part of lateral line entirely with scutes • Both caudal-fin lobes dusky distally

D Indo-Pacific (East Africa to Hawaii)

H Coastal waters, juveniles often entering into estuaries

S 1.2 m SL

(S. Kimura)

*C. ignobilis*, UPVMI 555, 266.6 mm SL

Family Carangidae

Caranx melanopygus

Cuvier 1833

En Bluefin Trevally

C • 21–24 dorsal-fin soft rays • 17–20 anal-fin soft rays • Breast completely scaly • Posterior tip of upper jaw not reaching to level of center of eye • Straight part of lateral line entirely with scutes • No black blotch on upper opercular margin

D Indo-Pacific (East Africa to Hawaii and French Polynesia), tropical eastern Pacific

H Offshore areas, juveniles often entering into estuaries

S 85 cm SL

(S. Kimura)

*C. melanopygus*, UPVMI 556, 411.3 mm SL



C. papuensis, UPVMI 1708, 309.7 mm SL

Family Carangidae

Caranx papuensis

Alleyne & Macleay 1877

Brassy Trevally

- 21–23 dorsal-fin soft rays
- 16–19 anal-fin soft rays
- Dorsal profile of snout at 50° with longitudinal body axis
- Breast naked ventrally with a small scale patch or almost completely scaly
- Straight part of lateral line entirely with scutes
- White spot at beginning of lateral line

Indo-Pacific (East Africa to French Polynesia)

Coastal waters, juveniles often entering into estuaries

65 cm SL

(S. Kimura)



C. sexfasciatus, KAUM-I. 80703, 71.0 mm SL

Family Carangidae

Caranx sexfasciatus

Quoy & Gaimard 1825

Bigeye Trevally

- 19–22 dorsal-fin soft rays
- 14–17 anal-fin soft rays
- Breast completely scaly
- Posterior tip of upper jaw reaching to or beyond level of center of eye
- Straight part of lateral line entirely with scutes
- Black blotch on upper opercular margin smaller than pupil in adults (1/3 of pupil in juveniles)

Indo-Pacific (East Africa to Hawaii and French Polynesia), tropical eastern Pacific

Reefs, juveniles often entering into estuaries

75 cm SL

(S. Kimura)



C. sexfasciatus, UPVMI 599, 116.4 mm SL

Family Carangidae

Caranx tille

Cuvier 1833

En Tille Trevally

C • 20–22 dorsal-fin soft rays
 • 16–18 anal-fin soft rays
 • Breast completely scaly
 • Posterior tip of upper jaw reaching to or beyond level of center of eye
 • Straight part of lateral line entirely with scutes
 • Black blotch on upper opercular margin same in diameter as or larger than pupil in adults (1/2 of pupil in juveniles)

D Indo-West Pacific (East Africa to Japan and Fiji)

H Inshore coral or rocky reefs

S 65 cm SL

(S. Kimura)

*C. tille*, UPVMI 1697, 242.4 mm SL

Family Carangidae

Decapterus kurroides

Bleeker 1855

En Redtail Scad

C • Straight part of lateral line entirely with scutes (30–32)
 • Body deep, 23–26% of SL
 • Head large, 30–33% of SL
 • Single finlet behind dorsal and anal fins
 • Red caudal fin

D Indo-West Pacific (East Africa to Australia)

H Somewhat deep waters in depths of 100–300 m

S 35 cm SL

(S. Kimura)

*D. kurroides*, UPVMI 596, 160.7 mm SL

Family Carangidae

Decapterus macarellus

(Cuvier 1833)

En Mackerel Scad

C • Posterior half of straight part of lateral line with scutes (24–40)
 • Single finlet behind dorsal and anal fins
 • Both lobes of caudal fin yellow

D Circumtropical

H Open water and insular habitats in depths of 40–200 m

S 40 cm SL

(S. Kimura)

*D. macarellus*, KAUM-I. 62952, 210.1 mm SL*D. macarellus*, KAUM-I. 80873, 194.3 mm SL



D. macrosoma, UPVMI 705, 224.5 mm SL



D. macrosoma, UPVMI 547, 166.5 mm SL

Family Carangidae

Decapterus macrosoma

Bleeker 1851

En Shortfin Scad

- C** ● Posterior 3/4 of straight part of lateral line with scutes (24–40) ● Round posterior margin of upper jaw
- Predorsal scaly area not reaching to level of mid-eye
- Single finlet behind dorsal and anal fins

D Indo-Pacific (East Africa to Hawaii and French Polynesia), tropical eastern Pacific

H Coastal waters in depths of 30–170 m

S 30 cm SL

(S. Kimura)



D. russelli, KAUM-I. 80699, 142.2 mm SL

Family Carangidae

Decapterus russelli

Bleeker 1851

En Indian Scad

- C** ● Straight part of lateral line entirely with scutes (30–40) ● Predorsal scaly area not reaching anteriorly to level of mid-eye ● Single finlet behind dorsal and anal fins

D Indo-West Pacific (East Africa to Japan and Australia)

H Inshore waters shallower than 100 m depth

S 30 cm SL

(S. Kimura)



D. russelli, KAUM-I. 80699, 142.2 mm SL

Family Carangidae

Decapterus tabl

Berry 1968

En Roughear Scad

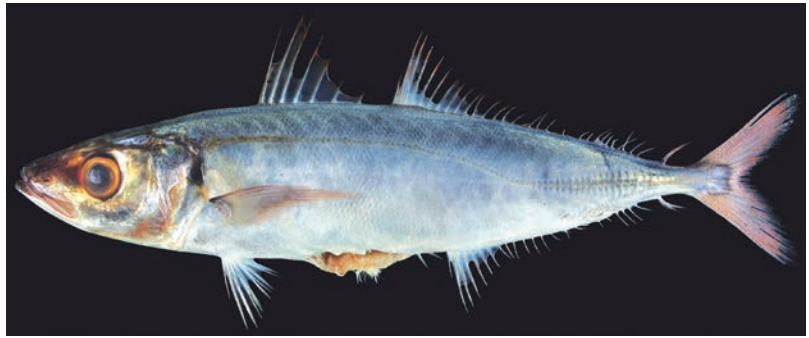
C • Straight part of lateral line with 0–6 cycloid scales and 31–39 scutes • Body slender, 18–23% of SL • Single finlet behind dorsal and anal fins • Posterior tip of pectoral fin not reaching to level of second dorsal-fin origin • Red caudal fin

D Indo-Pacific (East Africa to Hawaii), Atlantic Ocean

H Somewhat deep-waters in depths to 360 m

S 45 cm SL

(S. Kimura)

*D. tabl*, KAUM-I. 80653, 158.0 mm SL

Family Carangidae

Elagatis bipinnulata

(Quoy & Gaimard 1825)

En Rainbow Runner

C • Mouth small, posterior tip of upper jaw not reaching to level of anterior margin of eye • Single finlet behind dorsal and anal fins • Lateral line without scutes

D Circumtropical

H Pelagic, sometimes found in offshore areas

S 1 m SL

(S. Kimura)

*E. bipinnulata*, KAUM-I. 80655, 120.5 mm SL

Family Carangidae

Gnathanodon speciosus

(Forsskål 1775)

En Golden Trevally

C • No teeth on both jaws in adults, a few feeble teeth on lower jaw in juveniles • Breast completely scaly • 7–11 dark vertical bars on body

D Indo-Pacific (East Africa to Hawaii and French Polynesia), eastern Pacific

H Inshore waters

S 1 m SL

(S. Kimura)

*G. speciosus*, UPVMI 852, 204.1 mm SL*G. speciosus*, KAUM-I. 80877, 169.2 mm SL



M. cordyla, UPVMI 288, 114.4 mm SL

Family Carangidae
Megalaspis cordyla
(Linnaeus 1758)

En Torpedo Scad

C • 7–9 finlets behind second dorsal fin • 8–10 finlets behind anal fin • Junction of curved and straight parts of lateral line below first dorsal-fin base • Straight part of lateral line entirely with large scutes

D Indo-West Pacific (East Africa to Japan and Fiji)

H Pelagic

S 70 cm SL

(S. Kimura)



P. niger, UPVMI 334, 286.6 mm SL

Family Carangidae
Parastromateus niger
(Bloch 1795)

En Black Pomfret

C • Spinous dorsal fin embedded in adults • Anal fin absent in adults (juveniles with long black jugular pelvic fin) • Very weak scutes posteriorly on lateral line • Body dark brown

D Indo-West Pacific (East Africa to Japan and Fiji)

H Coastal muddy bottom areas in depths of 15–40 m

S 50 cm SL

(S. Kimura)



P. niger, KAUM-I. 56081, 50.9 mm SL



S. commersonianus, UPVMI 996, 358.0 mm SL

Family Carangidae
Scomberoides commersonianus
Lacepède 1802

En Talang Queenfish

C • Anterior upper lip joined to snout by skin • Posterior tip of upper jaw extending well beyond level of posterior margin of eye • Lateral line without scutes • 5–8 round dark blotches laterally on body in adults

D Indo-West Pacific (East Africa to Japan and Australia)

H Reefs and offshore islands

S 1 m SL

(S. Kimura)

*S. tala*, UPVMI 1163, 407.9 mm SL

Family Carangidae

Scomberoides tala

(Cuvier 1832)

En Barred Queenfish

C • Anterior upper lip joined to snout by skin • Posterior tip of upper jaw extending beyond level of posterior margin of eye • Lateral line without scutes • 4–8 vertically elongate dark blotches laterally on body in adults

D Eastern Indian and western Pacific oceans (Sri Lanka to Solomon Islands)

H Inshore waters**S** 60 cm SL

(S. Kimura)

*S. tala*, KAUM-I. 80736, 67.7 mm SL

Family Carangidae

Scomberoides tol

(Cuvier 1832)

En Needlescaled Queenfish

C • Anterior upper lip joined to snout by skin • Posterior tip of upper jaw not reaching to level of posterior margin of eye • Lateral line without scutes • A series of 5–8 small dark oval blotches laterally on body in adults

D Indo-West Pacific (East Africa to Japan and Fiji)

H Coastal waters**S** 45 cm SL

(S. Kimura)

*S. tol*, UPVMI 923, 241.6 mm SL*S. tol*, UPVMI 1704, 398.2 mm SL



S. boops, UPVMI 742, 179.8 mm SL

Family Carangidae

Selar boops

(Cuvier 1833)

En Oxeye Scad

- C** • Shoulder girdle margin with upper (small) and lower (large) papillae • No finlets behind dorsal and anal fins
- Junction of curved and straight parts of lateral line below first dorsal-fin base
- Straight part of lateral line entirely with scutes

D Indo-West Pacific (Pakistan to Japan and Solomon Islands)

H Continental shelf waters

S 25 cm SL

(S. Kimura)



S. boops, UPVMI 742, 179.8 mm SL

Family Carangidae

Selar crumenophthalmus

(Bloch 1793)

En Bigeye Scad

- C** • Shoulder girdle margin with upper (small) and lower (large) papillae • No finlets behind dorsal and anal fins
- Junction of curved and straight parts of lateral line posterior to level of second dorsal-fin origin
- Posterior 3/4 of straight part of lateral line with scutes

D Worldwide in tropical and subtropical seas

H Inshore waters

S 35 cm SL

(S. Kimura)



S. crumenophthalmus, UPVMI 947, 130.9 mm SL

Family Carangidae

Selaroides leptolepis

(Cuvier 1833)

En Yellowstripe Scad

- C** • No teeth on upper jaw but uniserial minute teeth on lower jaw
- Shoulder girdle margin without papillae
- No finlets behind dorsal and anal fins
- Prominent black blotch on upper posterior margin of opercle

D Indo-West Pacific (Persian Gulf to Japan and Australia)

H Coastal soft bottom area shallower than 50 m depth

S 18 cm SL

(S. Kimura)



S. leptolepis, KAUM-I. 52631, 115.9 mm SL

Family Carangidae

Seriola rivoliana

Valenciennes 1833

En Almaco Jack

- C** • 26–33 dorsal-fin soft rays
 • Posterior tip of upper jaw not reaching to level of center of eye • Anterior second dorsal fin falcate • No finlet
 • Lateral line without scutes

D Circumtropical
H Offshore waters

S 85 cm SL

(S. Kimura)

*S. rivoliana*, UPVMI 1621, 241.6 mm SL*S. nigrofasciata*, UPVMI 571, 119.4 mm SL

Family Carangidae

Seriolina nigrofasciata

(Rüppell 1829)

En Blackbanded Trevally

- C** • Posterior tip of upper jaw reaching to level of posterior margin of eye • No finlet • Lateral line without scutes
 • 5–7 black oblique bands laterally on body

D Indo-West Pacific (East Africa to Japan and Australia)

H Offshore reefs at depths of 20–150 m

S 60 cm SL

(S. Kimura)

*S. nigrofasciata*, UPVMI 546, 241.5 mm SL



U. mentalis, UPVMI 828, 172.0 mm SL

Family Carangidae

Ulua mentalis

(Rüppell 1829)

En Blackbanded Trevally

- C** • 51–61 lower gill rakers
- Gill rakers very long, projecting into mouth
- Anterior dorsal- and anal-fin rays elongate, filamentous
- Anterior straight part of lateral line without scutes

D Indo-West Pacific (East Africa to Japan and Australia)

H Shallow coastal waters

S 75 cm SL

(S. Kimura)

Family Carangidae

Uraspis helvola

(Forster 1801)

En Whitetongue Jack

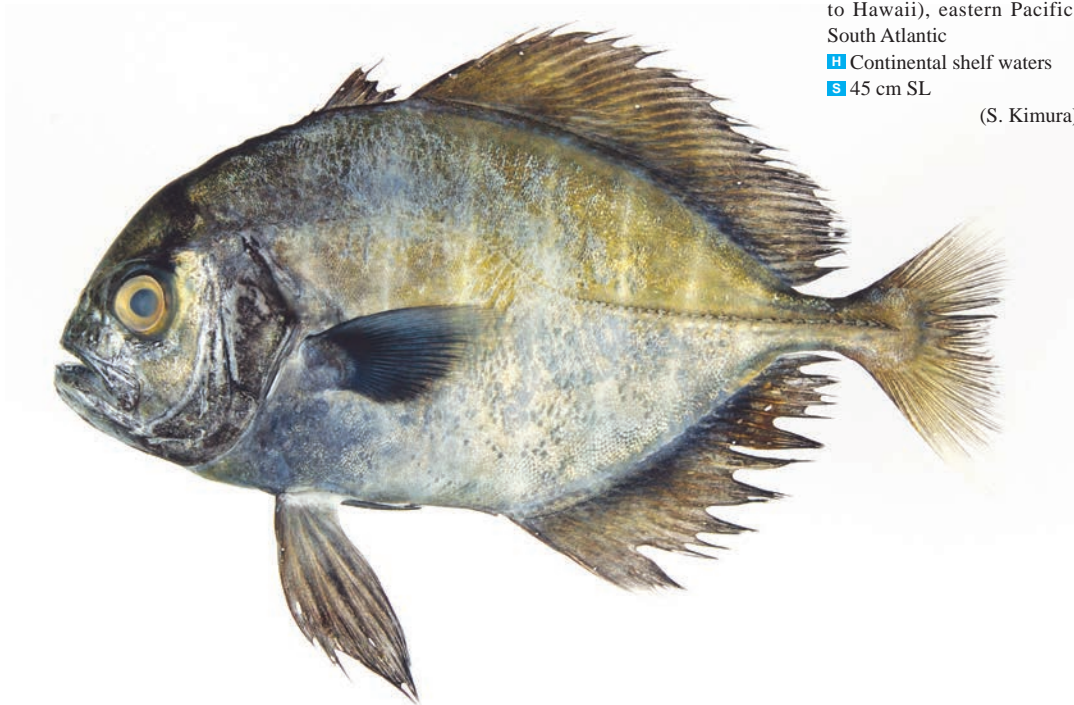
- C** • Naked areas of breast and pectoral-fin base separated by a broad band of scales
- Straight part of lateral line entirely with scutes
- Oral cavity black except white tongue, roof and floor of mouth

D Indo-Pacific (Red Sea to Hawaii), eastern Pacific, South Atlantic

H Continental shelf waters

S 45 cm SL

(S. Kimura)



U. helvola, UPVMI 236, 140.0 mm SL

*U. uraspis*, KAUM-I. 80800, 204.7 mm SL

Family Carangidae

Uraspis uraspis

(Günther 1860)

En Whitemouth Jack

C • Naked area of breast extending to naked pectoral-fin base • Straight part of lateral line entirely with scutes • Oral cavity black except white tongue, roof and floor of mouth

D Indo-Pacific (Red Sea to Hawaii), eastern Pacific, South Atlantic

H Coastal waters

S 30 cm SL

(S. Kimura)

*U. uraspis*, KAUM-I. 80846, 82.2 mm SL

Family Leiognathidae

Deveximentum indicium

(Monkolprasit 1973)

En Dots-and-dashes Ponyfish

C • Scale rows above and below lateral line 18–22 and 39–48, respectively • Body elongate • Mouth protruding upwards • Cheek without scales • Around 15 dark vertical markings consisting dots and short stripes dorso-laterally on body

D Western Pacific (Japan to Gulf of Thailand and Indonesia)

H Muddy bottoms in shallow coastal waters

S 10 cm SL

(S. Kimura)

*D. indicium*, KAUM-I. 57168, 91.4 mm SL



D. insidiator, UPVMI 513, 68.1 mm SL

Family Leiognathidae

Deveximentum insidiator

(Bloch 1787)

En Pugnose Ponyfish

C • Scale rows above and below lateral line 18–22 and 38–47, respectively • Body oblong to rounded • Mouth protruding upwards • Cheek without scales • 10–13 dark vertical markings consisting dots and short stripes dorso-laterally on body

D Indo-West Pacific (East Africa to Australia)

H Coastal inshore waters shallower than 50 m depth and estuaries

S 9 cm SL

(S. Kimura)



D. megalolepis, UPVMI 199, 51.2 mm SL

Family Leiognathidae

Deveximentum megalolepis

(Mochizuki & Hayashi 1989)

En Haneda's Ponyfish

C • Scale rows above and below lateral line 6–7 and 13–15, respectively • Body very deep, rounded • Mouth protruding upwards • Cheek with scales • Irregular dark vertical bands dorsolaterally on body

D Eastern Indian and western Pacific ocean (Andaman Sea to Japan and Australia)

H Coastal inshore waters shallower than 50 m depth and estuaries

S 6 cm SL

(S. Kimura)



E. laterofenestra, UPVMI 885, 105.1 mm SL

Family Leiognathidae

Equulites laterofenestra

(Sparks & Chakrabarty 2007)

En —

C • Body somewhat elongate, body depth 30–42% SL • Breast naked below a line from junction of interopercle and subopercle to pelvic-fin insertion • Second dorsal-fin spine distinctly elongated • Triangular translucent patch ventrolaterally on body in males

D Western Pacific (Taiwan, Philippines, Malaysia, and Indonesia)

H Shallow waters of muddy and sandy bottoms

S 12 cm SL

(H. Suzuki)

Family Leiognathidae

Equulites oblongus

(Valenciennes 1835)

En Oblong Ponyfish

C • Body oblong, body depth 35–48% SL • Breast almost completely scaly laterally with narrow naked area midventrally • Second dorsal- and anal-fin spines not distinctly elongated • Triangular or trapezoid translucent patch ventrolaterally on the body in males

D Indo-West Pacific (East Africa to Taiwan and Indonesia)

H Shallow waters of muddy and sandy bottoms

S 13 cm SL

(H. Suzuki)

*E. oblongus*, UPVMI 632, 64.7 mm SL

Family Leiognathidae

Eubleekeria jonesi

(Mochizuki & Hayashi 1989)

En Yellowlined Ponyfish

C • Mouth protruding downwards • Lower margin of orbit above level of gape • Cheek without scales • Semicircular naked area on nape • Lateral-line scales prominent, yellow • Anterior dorsal fin gray to dark yellow distally

D Indo-West Pacific (Mauritius to Australia)

H Muddy bottoms in shallow coastal waters

S 14 cm SL

(S. Kimura)

*E. jonesi*, UPVMI 559, 101.5 mm SL

Family Leiognathidae

Eubleekeria splendens

(Curvier 1829)

En Splendid Ponyfish

C • Mouth protruding downwards • Lower margin of orbit above level of gape • Cheek without scales • Anterior dorsal fin jet-black distally

D Indo-West Pacific (western coast of India to Japan and Australia)

H Muddy bottoms in shallow coastal waters

S 13 cm SL

(S. Kimura)

*E. splendens*, KAUM-I. 62962, 92.7 mm SL



G. minuta, KAUM-I. 56047, 77.9 mm SL

Family Leiognathidae

Gazza minuta

(Bloch 1795)

En Toothpony

C • Mouth protruding forwards • Distinct canine teeth on both jaws • Long narrow anterodorsal extension of subocular silvery region, proximal contact only with orbit • Row of dark bluish spots along lateral line

D Indo-West Pacific (East Africa to Japan and Australia)

H Sandy or muddy bottoms in brackish and coastal waters shallower than 55 m depth

S 12 cm SL

(S. Kimura)



L. equulus, UPVMI 558, 103.4 mm SL

Family Leiognathidae

Leiognathus equulus

(Forskål 1775)

En Common Ponyfish

C • Body extremely deep • Mouth protruding downwards • Second dorsal- and anal-fin spines slightly elongated but not filamentous • Cheek, breast and belly completely naked • Many narrow dark vertical bands dorsolaterally on body

D Indo-Pacific (East Africa to Samoa)

H Muddy bottoms in brackish and coastal waters shallower than 70 m depth

S 20 cm SL

(S. Kimura)

Family Leiognathidae

Photolateralis stercorarius

(Evermann & Seale 1907)

En Slender Ponyfish

C • Body elongate, body depth 30–36% SL • Cheek, breast and belly completely scaly • Second dorsal- and anal-fin spines not distinctly elongated • Continuous or composite stripe comprised of numerous independent translucent windows ventrolaterally on body in males

D Eastern Indian and western Pacific oceans (Thailand to Philippines and Indonesia)

H Soft bottom area at depths shallower than 50 m

S 12 cm SL

(H. Suzuki)



P. stercorarius, KAUM-I. 57203, 71.2 mm SL

Family Leiognathidae

Photopectoralis bindus

(Valenciennes 1835)

En Orangefin Ponyfish

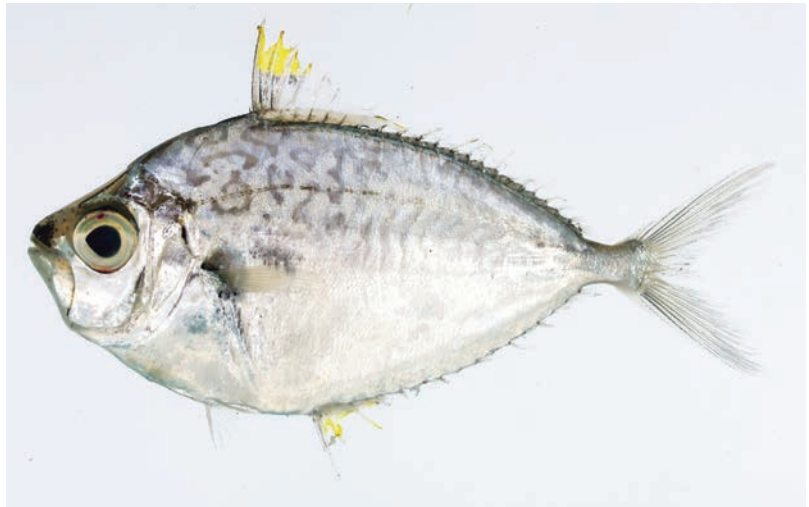
C • Mouth protruding forwards • Small conical teeth on both jaws • Cheek naked, breast scaly with narrow naked area ventrally • Anterior dorsal fin yellow to dark orange distally

D Indo-West Pacific (Red Sea to Japan and New Caledonia)

H Coastal inshore waters shallower than 160 m depth

S 11 cm SL

(S. Kimura)

*P. bindus*, KAUM-I. 63024, 70.6 mm SL*B. dussumieri*, KAUM-I. 80656, 166.8 mm SL

Family Bramidae

Brama dussumieri

Cuvier 1831

En Lesser Bream

C • Body silver, darker dorsally • 57–65 scale rows in longitudinal series • 32–42 predorsal scales • Distance from lowermost point of pectoral-fin insertion to pelvic-fin origin less than 12% SL • 31–36 dorsal-fin rays • 25–29 anal-fin rays

• Upper lobe of caudal fin extended in juveniles

D Equatorial seas between latitudes 35°N and 40°S in Indo-Pacific and between latitudes 40°N and 25°S in Atlantic

H Pelagic; shallower than 300 m depth

S 19 cm SL

R Rare around Panay I., only a single specimen collected during this survey

(H. Hata)

*B. dussumieri*, KAUM-I. 80656, 166.8 mm SL

*B. orcini*, UPVMI 472, 275.2 mm SL*B. orcini*, UPVMI 575, 168.2 mm SL*B. pauciradiata*, UPVMI 344, 126.8 mm SL*B. pauciradiata*, UPVMI 610, 126.6 mm SL

Family Bramidae

Brama orcini

Cuvier 1831

En Bigbelly Pomfret

C • Body silver, darker dorsally • 48–55 scale rows in longitudinal series • 33–43 predorsal scales • Distance from lowermost point of pectoral-fin insertion to pelvic-fin origin more than 12% SL • 32–36 dorsal-fin rays • 28–30 anal-fin rays • Upper lobe of caudal fin extended in adults

D Equatorial seas between latitudes 30°N and 30°S in Indo-Pacific and coast of California, USA

H Pelagic; shallower than 100 m depth

S 30 cm SL

R Landed frequently in July to November around Panay I. The present specimens represent the second records of the species from the Philippines after Bos & Guamao (2013) who reported the species from Samal I.

(H. Hata)

Family Bramidae

Brama pauciradiata

Moteki, Fujita & Last 1995

En Bigbelly Pomfret

C • Body oval in adults, deeper in juveniles • 49–59 scale rows in longitudinal series • 23–28 predorsal scales • 30–32 dorsal-fin rays • 23–28 anal-fin rays

D Japan, Philippines, northern Australia, and Hawaiian Is.

H Juveniles collected from shallower than depth 230 m; Adults from around 550 m

S 16 cm SL

R Landed frequently in November around Panay I.

(H. Hata)

Family Bramidae

Taractes rubescens

(Jordan & Jordan 1887)

En Knifetail Pomfret

C • Scales on caudal peduncle greatly enlarged, forming a sharp keel • 30–32 dorsal-fin rays • 21–23 anal-fin rays • 19–22 pectoral-fin rays • Pectoral fin long, longer than 36% SL

D Tropical waters in the Pacific and Atlantic oceans, and northwestern Indian Ocean (Gulf of Aden and Oman Sea)

H Pelagic; fished from shallower than 300 m depth

S 70 cm SL

R Rare around Panay I., only a single specimen collected during this survey

(H. Hata)

*T. rubescens*, KAUM-I. 80702, 389.8 mm SL

Family Bramidae

Taractichthys steindachneri

(Dörderlein 1883)

En Sickie Pomfret

C • 34–38 scale rows in longitudinal series • 21–29 predorsal scales • 33–37 dorsal-fin rays • 26–28 anal-fin rays • 19–22 pectoral-fin rays

D Equatorial seas between latitudes 40°N and 40°S in Indo-Pacific

H Pelagic; 300–350 m depth

S 60 cm SL

R Juveniles frequently caught in February around Panay I.

(H. Hata)

*T. steindachneri*, KAUM-I. 69453, 62.3 mm SL*T. steindachneri*, KAUM-I. 69459, 125.7 mm SL



E. struhsakeri, KAUM-I. 91845, 126.6 mm SL

Family Emmelichthyidae

Emmelichthys struhsakeri

Heemstra & Randall 1977

En Golden Redbait

C • Body elongate and reddish • 2 or 3 isolated spines between first and second dorsal fins

D Western Pacific and Hawaii

H Offshore waters

S 27 cm SL

(M. Matsunuma)



A. rutilans, UPVMI 1153, 391.2 mm SL

Family Lutjanidae

Aphareus rutilans

Cuvier 1830

En Rusty Jobfish

C • Body elongate, laterally compressed • Posterior margin of maxilla reaching to or extending beyond middle of eye • 15–16 pectoral-fin rays

D Indo-Pacific (south coast of Africa to Japan and Hawaii)

H Coral and rocky reefs in shallow waters to 250 m depth

S 1.1 m SL

(N. Muto)



A. virescens, UPVMI 1658, 403.3 mm SL

Family Lutjanidae

Aprion virescens

Valenciennes 1830

En Green Jobfish

C • Body elongate • Posterior margin of maxilla not reaching to vertical through anterior margin of orbit • 16–18 pectoral-fin rays

D Indo-Pacific (south coast of Africa to Japan and Hawaii)

H Coral and rocky reefs in 5–150 m depth

S 1.1 m SL

(N. Muto)



L. argentimaculatus, UPVMI 332, 213.0 mm SL

Family Lutjanidae

Lutjanus argentimaculatus

(Forsskål 1775)

En Mangrove Red Snapper

C • 44–48 pored lateral-line scales • 8 whitish bars on side of body in juveniles

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Coral and rocky reefs; juveniles and subadults occur in brackish waters

S 1.2 m SL

(N. Muto)

Family Lutjanidae

Lutjanus bengalensis

(Bloch 1790)

En Bengal Snapper

C • 11 dorsal-fin spines • Body yellowish, with 4 blue stripes on side, third stripe beginning from anterior edge or middle of upper part of opercle

D Indo-West Pacific (South Africa to Japan and Indonesia)

H Coral and rocky reefs

S 30 cm SL

R This species has been confused with *L. sapphirilineatus* Iwatsuki, Al-Mamry & Heemstra 2016 and *L. octolineatus* (Cuvier 1828), before Iwatsuki et al. (2016) newly described the former and re-evaluated the validity of the latter

(N. Muto)

*L. bengalensis*, UPVMI 1273, 124.8 mm SL

Family Lutjanidae

Lutjanus bohar

(Forsskål 1775)

En Two-spot Red Snapper

C • Nostrils set in a groove extending forward from eye in adults • 2 white spots on back in young

D Indo-Pacific (east coast of Africa to Japan and Pitcairn Is.)

H Coral and rocky reefs

S 75 cm SL

R The flesh of large individuals is sometimes poisonous

(N. Muto)

*L. bohar*, UPVMI 1657, 177.7 mm SL

Family Lutjanidae

Lutjanus carponotatus

(Richardson 1842)

En Spanish Flag Snapper

C • 9 anal-fin soft rays • Body blue-grey to brownish, with 8–9 yellow or orange stripes on side • Pectoral-fin axil black

D Indo-West Pacific (India to southern China and northern Australia)

H Coral and rocky reefs

S 40 cm SL

(N. Muto)

*L. carponotatus*, UPVMI 223, 193.1 mm SL



L. decussatus, UPVMI 998, 234.1 mm SL

Family Lutjanidae

Lutjanus decussatus

(Cuvier 1828)

En Checkered Snapper

C • Distinctive "checker-board" pattern on back, consisting of dark brown stripes intersected by vertical bars • Large black blotch on caudal-fin base

D Indo-West Pacific (India and Sri Lanka to Japan and Papua New Guinea)

H Coral and rocky reefs

S 30 cm SL

(N. Muto)



L. fulviflamma, KAUM-I. 62942, 180.0 mm SL

Family Lutjanidae

Lutjanus fulviflamma

(Forskål 1775)

En Dory Snapper

C • Body reddish to brownish, lighter ventrally, with 6–7 yellow stripes and a prominent black blotch on side • 12–14 (mostly 13) dorsal-fin soft rays

D Indo-West Pacific (east coast of Africa to Japan and Tonga)

H Coral reefs; juveniles occasionally found in brackish waters

S 35 cm SL

(N. Muto)



L. fulvus, UPVMI 1662, 175.4 mm SL

Family Lutjanidae

Lutjanus fulvus

(Forster 1801)

En Blacktail Snapper

C • Body greyish to brownish, whitish ventrally • Dorsal and caudal fins blackish or reddish, with narrow white margin

D Indo-Pacific (east coast of Africa to Japan and Marquesas Is.)

H Coral reefs; juveniles occasionally found in brackish waters

S 40 cm SL

R Introduced to Hawaii

(N. Muto)

Family Lutjanidae

Lutjanus gibbus

(Forsskål 1775)

En Humpback Red Snapper

C • Snout relatively long • Body reddish, with yellow to orange markings on opercle and above pectoral-fin base

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Coral and rocky reefs

S 50 cm SL

R The flesh of adults is sometimes poisonous

(N. Muto)

*L. gibbus*, UPVMI 450, 228.2 mm SL

Family Lutjanidae

Lutjanus johnii

(Bloch 1792)

En John's Snapper

C • Body bronze to yellow dorsally, silver ventrally • Large black blotch on back, mainly situated above lateral line (rarely faint or absent)

D Indo-West Pacific (east coast of Africa to Japan and Fiji)

H Coral reefs; juveniles found in brackish waters

S 70 cm SL

(N. Muto)

*L. johnii*, UPVMI 1512, 169.9 mm SL

Family Lutjanidae

Lutjanus lutjanus

(Bloch 1790)

En Bigeye Snapper

C • 12 dorsal-fin soft rays • Body silvery with a broad yellow stripe from eye to caudal-fin base

D Indo-West Pacific (east coast of Africa to Japan and Tonga)

H Coral reefs and trawling grounds

S 30 cm SL

(N. Muto)

*L. lutjanus*, UPVMI 601, 121.5 mm SL*L. lutjanus*, UPVMI 198, 75.2 mm SL



L. malabaricus, UPVMI 470, 158.6 mm SL

Family Lutjanidae

Lutjanus malabaricus

(Bloch & Schneider 1801)

En Malabar Blood Snapper

C • 11 dorsal-fin spines • Body deep, its depth 2.2–2.8 in SL • Body reddish, lighter ventrally

D Indo-West Pacific (Persian Gulf to Japan and Tonga)

H Coral and rocky reefs; adults mainly in deeper waters

S 1 m SL

(N. Muto)



L. mizenkoi, UPVMI 1628, 152.7 mm SL

Family Lutjanidae

Lutjanus mizenkoi

Allen & Talbot 1985

En Samoan Snapper

C • 8 anal-fin soft rays • Body pinkish to reddish with yellow stripes • Snout relatively long and pointed

D Samoa, Papua New Guinea, Indonesia, north Western Australia, and Philippines

H Offshore reefs

S 30 cm SL

R The present specimen represents the first record of the species from the Philippines

(N. Muto)



L. monostigma, UPVMI 184, 252.9 mm SL

Family Lutjanidae

Lutjanus monostigma

(Cuvier 1828)

En One-spot Snapper

C • Body pinkish to yellowish, lighter ventrally • Fins yellowish • Black blotch, sometimes faint or absent, on back

D Indo-Pacific (east coast of Africa to Japan and Pitcairn Is.)

H Coral and rocky reefs

S 60 cm SL

R The flesh of adults is sometimes poisonous

(N. Muto)

Family Lutjanidae

Lutjanus quinquelineatus
(Bloch 1790)

En Five-lined Snapper

- C** • 10 dorsal-fin spines • Body yellow, with 5 blue stripes on side • Large black blotch on back
- D** Indo-West Pacific (Persian Gulf to Japan and Fiji)
- H** Coral and rocky reefs
- S** 20 cm SL

(N. Muto)

*L. quinquelineatus*, UPVMI 151, 146.9 mm SL

Family Lutjanidae

Lutjanus rivulatus
(Cuvier 1828)

En Bubberlip Snapper

- C** • Body deep, its depth 2–2.4 in SL • 15–16 dorsal-fin soft rays • Head with numerous undulating blue lines
- D** Indo-Pacific (east coast of Africa to Japan and Kiribati)
- H** Coral and rocky reefs in shallow waters to 100 m depth
- S** 65 cm SL

(N. Muto)

*L. rivulatus*, UPVMI 1099, 253.6 mm SL

Family Lutjanidae

Lutjanus russellii
(Bleeker 1849)

En Russell's Snapper

- C** • Body reddish brown to yellowish, without remarkable stripes • Black blotch on back almost bisected by lateral line
- D** Western Pacific (Japan to Philippines and Tonga)
- H** Coral and rocky reefs; juveniles found in mangrove estuaries
- S** 30 cm SL
- R** Distinguishable from a closely related sister species, *L. indicus* Allen, White & Erdmann 2013, by the absence of yellow stripes on side

(N. Muto)

*L. russellii*, UPVMI 1511, 128.5 mm SL



L. sebae, UPVMI 614, 167.1 mm SL

Family Lutjanidae

Lutjanus sebae

(Cuvier 1816)

En Emperor Red Snapper

C • 11 dorsal-fin spines • Body deep, its depth 2.6–3.0 in SL • Body reddish to pink in adults, white with 3 reddish bars in juveniles and subadults

D Indo-West Pacific (east coast of Africa to Japan and Solomon Is.)

H Coral reefs and sandy bottoms; juveniles found in mangrove estuaries

S 1 m SL

R The flesh of large individuals is sometimes poisonous

(N. Muto)



L. vitta, UPVMI 150, 149.7 mm SL

Family Lutjanidae

Lutjanus vitta

(Quoy & Gaimard 1824)

En Brownstripe Red Snapper

C • Preopercular flange scaled • Body reddish to whitish with dark stripes • Mid-lateral stripe broader, extending from eye to upper half of caudal peduncle

D Indo-Pacific (Seychelles to Japan and Marshall Is.)

H Coral reefs

S 30 cm SL

(N. Muto)



P. kusakarii, KAUM-I. 91794, 259.8 mm SL

Family Lutjanidae

Paracaesio kusakarii

Abe 1960

En Saddle-back Snapper

C • Maxilla covered with scales • Large adults with pronounced hump on nape • 4 broad dark vertical bars on body side, becoming indistinct ventrally • Central and lower portions of caudal fin dusky yellow

D Western Pacific (Japan to Samoa and Australia)

H Offshore waters in depth of 100 m or more

S 60 cm SL

R Sometimes found at fish markets in Iloilo

(M. Matsunuma)

Family Lutjanidae

Paracaesio stonei

Raj & Seeto 1983

En Cocoa Snapper

C • Maxilla without scales
 • Nape without pronounced hump in large adults • 4 broad dark vertical bars on body side clearly reaching abdomen • Central and lower portions of caudal fin dusky yellow

D Western Pacific (Japan to Samoa and Australia)

H Offshore waters in depth of 100 m or more

S 50 cm SL

R Sometimes found at fish markets in Iloilo

(M. Matsunuma)



P. stonei, KAUM-I. 91795, 249.5 mm SL

Family Lutjanidae

Paracaesio xanthura

(Bleeker 1869)

En Yellowtail Blue Snapper

C • X, 10–11 dorsal-fin rays
 • III, 8–9 anal-fin rays • 16–18 pectoral-fin rays • 68–72 lateral-line scales • Yellow streak on upper side of body from anterior end of dorsal fin to upper half of caudal peduncle on caudal fin

D Indo-Pacific (East Africa to Austral Is.)

H Rocky bottoms or coral reefs

S 40 cm SL

R Common around Panay I.; planktivorous & forms schools; complex of variable populations

(W. L. Campos)



P. xanthura, UPVMI 799, 178.9 mm SL

Family Lutjanidae

Pinjalo lewisi

Randall, Allen & Anderson 1987

En Red Pinjalo

C • XII, 13 dorsal-fin rays • III, 8–9 anal-fin rays • Caudal fin slightly emarginate • No lines on body

D Indo-West Pacific (Laccadive Is. to Japan and Fiji)

H Rocky bottoms in relatively deep waters

S 36 cm SL

(H. Tatsukawa)



P. lewisi, UPVMI 981, 396.5 mm SL



P. filamentosus, UPVMI 1089, 307.0 mm SL

Family Lutjanidae

Pristipomoides filamentosus
(Valenciennes 1830)

En Crimson Jobfish

C • X, 12 dorsal-fin rays • III, 8 anal-fin rays • Last ray of dorsal and anal fins longer than preceding one • 15–16 pectoral-fin rays • Pectoral fin about as long as head • 57–63 lateral-line scales • 22–27 gill rakers

D Indo-Pacific (East Africa to Hawaiian Is. and Society Is.)

H Benthopelagic; deep rocky bottom from 40–360 m

S 1 m TL

(W. L. Campos)



P. multidentis, UPVMI 318, 272.0 mm SL

Family Lutjanidae

Pristipomoides multidentis
(Day 1871)

En Goldbanded Jobfish

C • X, 11 dorsal-fin rays • III, 8 anal-fin rays • 48–50 lateral-line scales • 2 golden stripes on snout and cheek • Transverse gold streaks on dorsal head

D Indo-Pacific (East Africa to Hawaiian Is. and Society Is.)

H Demersal in rocky bottoms, mostly from depths of 40–360 m

S 80 cm SL

(W. L. Campos)



P. multidentis, UPVMI 1154, 332.2 mm SL

Family Lutjanidae

Pristipomoides sieboldii
(Bleeker 1855)

En Lavender Jobfish

C • X, 11 dorsal-fin rays • III, 8 anal-fin rays • 16–17 pectoral-fin rays • 67–74 lateral-line scales • 27–33 gill rakers • Patch of teeth on tongue • Pectoral fin reaching to anus

D Indo-Pacific (East Africa to Hawaiian Is. and French Polynesia)

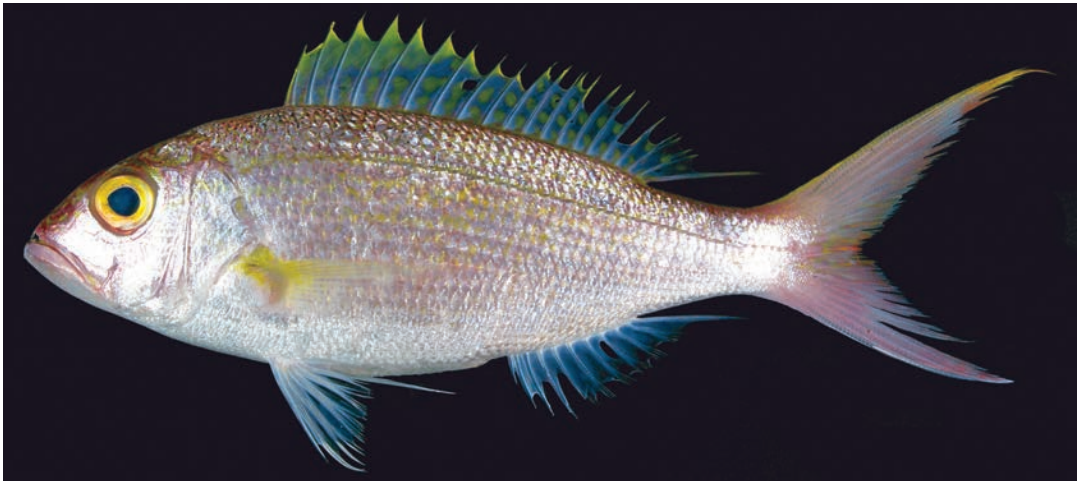
H Benthopelagic; off rocky bottoms from 100–360 m deep

S 50 cm SL

(W. L. Campos)



P. sieboldii, KAUM-I. 62992, 115.0 mm SL

*P. typus*, UPVMI 314, 200.4 mm SL

Family Lutjanidae

Pristipomoides typus

Bleeker 1852

En Sharp-tooth Jobfish

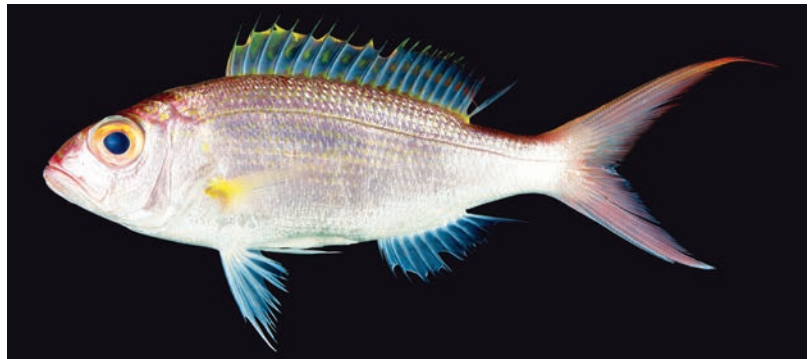
C • X, 11–12 dorsal-fin rays
 • III, 8 anal-fin rays • 15–16 pectoral-fin rays • 48–50 lateral-line scales • No stripes on snout or cheek • Dorsal head with longitudinal gold streaks

D Andaman Sea and western Pacific Ocean (Sumatra to Japan and New Guinea)

H Hard rocky bottom 40–120 m deep

S 50 cm SL

(W. L. Campos)

*P. typus*, UPVMI 702, 161.2 mm SL

Family Caesionidae

Caesio caeruleaurea

Lacepède 1801

En Blue-and-gold Fusilier

C • Single premaxillary process • Black band on each caudal-fin lobe • Yellow stripe along above lateral line • 57–65 lateral-line scales

D Indo-West Pacific (East Africa and Red Sea to Japan and New Caledonia), except for Persian Gulf

H Rocky and coral reefs in coastal waters

S 35 cm TL

(H. Tatsukawa)

*C. caeruleaurea*, UPVMI 1777, 147.4 mm SL*C. caeruleaurea*, UPVMI 1654, 167.9 mm SL



C. cuning, UPVMI 1097, 245.8 mm SL

Family Caesionidae

Caesio cuning

(Bloch 1791)

En Redbelly Yellowtail Fusilier

C • Single premaxillary process • Caudal fin yellow, without dark blotches • X, 10–12 (usually 11) dorsal-fin rays • III, 10–12 (usually 11) anal-fin rays

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan and Vanuatu)

H Rocky and coral reefs in coastal waters

S 50 cm TL

(H. Tatsukawa)



C. cuning, UPVMI 1647, 177.8 mm SL

Family Caesionidae

Dipterygonotus balteatus

(Valenciennes 1830)

En Mottled Fusilier

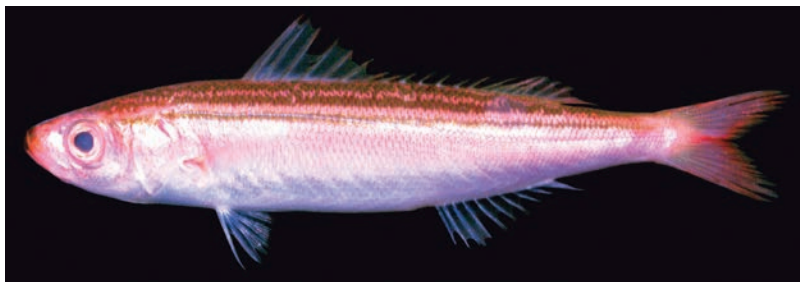
C • 2 premaxillary processes • 16–19 pectoral-fin rays • XIV, 8–11 dorsal-fin rays • III, 9–10 anal-fin rays • Body brownish red dorsally

D Indo-West Pacific (East Africa to Japan, Solomon Is., and Australia)

H Pelagic; coastal waters

S 14 cm TL

(H. Tatsukawa)



D. balteatus, KAUM-I. 51663, 93.1 mm SL

Family Caesionidae

Pterocaesio digramma

(Bleeker 1864)

En Doublelined Fusilier

C • 2 premaxillary processes • 2 longitudinal stripes on lateral surface of body, lower stripe running below lateral line on middle of body • Tips of caudal-fin lobes black • 20–22 pectoral-fin rays

D Western Pacific (Japan to Australia)

H Coastal waters

S 30 cm TL

(H. Tatsukawa)



P. digramma, UPVMI 1646, 170.8 mm SL

Family Caesionidae

Pterocaesio pisang

(Bleeker 1853)

En Banana Fusilier

C • 2 premaxillary processes • No longitudinal stripes on lateral surface of body • Tips of caudal-fin lobes dark red to black • 18–20 pectoral-fin rays

D Indo-West Pacific (East Africa to Philippines and Fiji), except for Red Sea and Persian Gulf

H Coral reefs**S** 21 cm TL

(H. Tatsukawa)

*P. pisang*, UPVMI 197, 78.9 mm SL

Family Caesionidae

Pterocaesio tessellata

Carpenter 1987

En Onestripe Fusilier

C • 2 premaxillary processes • Single longitudinal stripe on lateral surface of body, mostly on lateral line • Tips of caudal-fin lobes dark red to black • 20–22 pectoral-fin rays

D Indo-West Pacific (Maldives and Sri Lanka to Caroline Is., Philippines, and Vanuatu)

H Coral reefs**S** 25 cm TL

(H. Tatsukawa)

*P. tessellata*, UPVMI 196, 95.2 mm SL

Family Caesionidae

Pterocaesio tile

(Cuvier 1830)

En Darkbanded Fusilier

C • 2 premaxillary processes • Single longitudinal stripe on lateral surface of body, mostly on lateral line • Black band on each caudal-fin lobe

D Indo-Pacific (East Africa to Japan and Tuamotu Is.), except for Red Sea and Persian Gulf

H Coral reefs**S** 30 cm TL

(H. Tatsukawa)

*P. tile*, UPVMI 570, 177.5 mm SL

Family Lobotidae

Lobotes surinamensis

(Bloch 1970)

En Tripletail

C • Soft-rayed portions of dorsal and anal fins rounded posteriorly and extending beyond caudal-fin base • Opercle with 2 flat spines

D Circumglobal in temperate to tropical waters, except eastern Pacific Ocean

H Adults inhabiting brackish and marine waters; juveniles with floating leaves

S 1 m TL

(S. Chungthanawong)

*L. surinamensis*, UPVMI 1518, 221.5 mm SL



G. erythrouros, UPVMI 230, 127.3 mm SL

Family Gerreidae

Gerres erythrouros

(Bloch 1791)

En Deepbody Silverbiddy

C • IX, 10 dorsal-fin rays • 35–38 pored lateral-line scales • Body deep and compressed • Squamation on preopercular flange with growth

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Australia)

H Juveniles in estuaries, lower reaches of coastal rivers, and mangroves, and adults in coastal waters

S 25 cm SL

(Y. Iwatsuki)



G. filamentosus, UPVMI 540, 143.8 mm SL

Family Gerreidae

Gerres filamentosus

Cuvier 1829

En Whipfin Silverbiddy

C • IX, 10 dorsal-fin rays • 35–38 pored lateral-line scales • Body deep and compressed with elongated and filamentted second dorsal-fin spine • Body silvery with 6–12 indistinct vertical bands on body in specimens less than ca. 100 mm SL, forming vertical rows of dark ovoid spots in larger specimens

D Indo-West Pacific (East Africa to Japan, Australia, and Fiji)

H Juveniles in estuaries and mangroves, and adults in coastal waters

S 25 cm SL

(Y. Iwatsuki)



G. macracanthus, UPVMI 1675, 88.8 mm SL

Family Gerreidae

Gerres macracanthus

Bleeker 1854

En Longspined Silverbiddy

C • IX, 10 dorsal-fin rays • Body relatively slender and compressed • Usually 6–10 (rarely up to 14 as faint bands in larger specimens) indistinct vertical dark bands on body in subadults and adults (more apparent in preserved or agitated specimens), not forming vertical rows of dark ovoid spots

D Indo-West Pacific (South Africa and Red Sea to Japan, Palau, and Indonesia)

H Juveniles in estuaries, lower reaches of coastal rivers, and mangroves, and adults in coastal waters

S 17 cm SL

(Y. Iwatsuki)

Family Gerreidae

Gerres oyena

(Forsskål 1775)

En Common Silverbiddy

C • IX, 10 dorsal-fin rays • 35–38 pored lateral-line scales • Body deep and compressed • 6–8 irregular, faint dusky oblique and vertical bands dorsolaterally and ventrolaterally on body, respectively (usually more apparent in preserved or young stressed specimens) • $3\frac{1}{2}$ scale rows between 5th dorsal-fin spine base and lateral line

D Indo-West Pacific (East Africa to Japan, Australia, and Samoa)

H Juveniles in estuaries and mangroves, and adults in coastal waters

S 25 cm TL

(Y. Iwatsuki)

*G. oyena*, UPVMI 587, 136.0 mm SL

Family Gerreidae

Gerres shima

Iwatsuki, Kimura & Yoshino 2007

En Banded Silverbiddy

C • IX, 10 dorsal-fin rays • Body relatively deep • $3\frac{1}{2}$ scale rows between 5th dorsal-fin spine base and lateral line

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan, Philippines, and Indonesia)

H Juveniles in estuaries and mangroves, and adults in coastal waters

S 17 cm SL

(Y. Iwatsuki)

*G. shima*, UPVMI 590, 128.7 mm SL

Family Gerreidae

Pentaprion longimanus

(Cantor 1849)

En Longfin Silverbiddy

C • IX–X, 14–15 dorsal-fin rays • V–VI, 12–14 anal-fin rays • Body silvery, with mirror-like stripe from snout to peduncle

D Indo-West Pacific (Percian Gulf to Japan and Australia)

H Muddy bottoms in estuaries and coastal waters in depths of less than 80 m

S 20 cm TL

(Y. Iwatsuki)

*P. longimanus*, UPVMI 658, 100.8 mm SL



H. kishinouyei, UPVMI 2095, 142.9 mm SL (preserved specimen)

Family Hapalogenyidae

Hapalogenys kishinouyei

Smith & Pope 1906

En Striped Velvetchin

C • Body deep • Dense cluster of short papillae on and behind chin
• 1st pelvic-fin soft ray moderately long, its tip not reaching 1st anal-fin spine base • Gray body with 5 broad longitudinal dark stripes

D Western Pacific (Japan to Philippines)

H Coastal and offshore waters

S 40 cm SL

R Identification followed Iwatsuki & Russell (2006). The present specimen represents the first specimen-based record of the species from the Philippines

(M. Matsunuma)



D. picta picta, UPVMI 263, 185.2 mm SL

Family Haemulidae

Diagramma picta picta

(Thunberg 1792)

En Painted Sweetlips

C • Body and vertical fins blue-gray with yellow or orange spots in adults, body yellow, black stripes in juveniles • IX–X, 22–23 dorsal-fin rays • III, 7–8 anal-fin rays

D Western Pacific (Japan to Vanuatu), except for Australia and southern New Guinea

H Coral and rocky reefs, and sandy bottoms

S 60 cm SL

D. picta picta, UPVMI 458, 91.2 mm SL

(H. Hata)



Family Haemulidae

Plectorhinchus chaetodonoides

Lacepède 1801

En Harlequin Sweetlips

C • Body with numerous dark brown spots in adults • Depressed pelvic fin reaching to anus • XI–XII, 19–20 dorsal-fin rays • III, 7–8 anal-fin rays

D Indo-Pacific (East Africa to Japan and French Polynesia)

H Coral and rocky reefs in shallow waters

S 40 cm SL

(H. Hata)

*P. chaetodonoides*, UPVMI 224, 267.9 mm SL

Family Haemulidae

Plectorhinchus chrysotaenia

(Bleeker 1855)

En Goldbanded Sweetlips

C • Head and body grayish blue with many orange narrow longitudinal bands • Pectoral, pelvic, and anal fins light color

D Western Pacific (Indonesia to Japan and New Guinea)

H Coral and rocky reefs in shallow waters

S 35 cm SL

(H. Hata)

*P. chrysotaenia*, UPVMI 983, 269.9 mm SL

Family Haemulidae

Plectorhinchus gibbosus

Lacepède 1802

En Harry Hotlips

C • Body and fins uniformly dark green • Opercle margined red • Caudal fin transparent in juveniles • XIV, 15–17 dorsal-fin rays • III, 7–8 anal-fin rays

D Indo-Pacific (South Africa to Japan and French Polynesia)

H Coral and rocky reefs in shallow waters; juveniles entering estuaries

S 40 cm SL

(H. Hata)

*P. gibbosus*, UPVMI 1656, 356.7 mm SL



P. argenteus, UPVMI 448, 169.3 mm SL

Family Haemulidae

Pomadasys argenteus

(Thunberg 1792)

En Silver Grunt

C • Body silver with numerous small black spots scattered on dorsal fin and upper part of body • Irregular black longitudinal bands on upper part of body in juveniles • 21–22 circumpeduncular scales

D Indo-West Pacific (Red Sea to Korea and Vanuatu)

H Sandy and muddy bottoms in shallow waters; juveniles entering estuaries

S 30 cm SL

(H. Hata)



L. argyreus, KAUM-I. 80743, 81.3 mm SL

Family Haemulidae

Pomadasys argyreus

(Valenciennes 1833)

En Bluecheek Silver Grunt

C • Body uniformly greenish silver without dark spots • Bluish blotch on posterior part of opercle • XII, 13 dorsal-fin rays • III, 7 anal-fin rays • 18–19 circumpeduncular scales

D Indo-West Pacific (India to Philippines and Papua New Guinea)

H Coastal waters

S 25 cm SL

(H. Hata)



P. maculatus, KAUM-I. 51674, 137.8 mm SL

Family Haemulidae

Pomadasys maculatus

(Bloch 1793)

En Saddle Grunt

C • Body with 4 blackish vertical bands on dorsum • Chin with 2 pores followed by a pit

D Indo-West Pacific (East Africa to Taiwan and Australia)

H Muddy bottoms in shallow waters

S 30 cm SL

(H. Hata)

Family Haemulidae

Pomadasys trifasciatus

Fowler 1937

En Blackeared Grunt

C • Body silver; 3 stripes on upper part of body in juveniles • Bluish blotch on posterior part of opercle • XII, 13 dorsal-fin rays • III, 7 anal-fin rays • 21–23 circumpectuncular scales

D Eastern Indian and western Pacific oceans (Bay of Bengal to Philippines and Australia)

H Coastal inshore waters, entering estuaries

S 10 cm SL

(H. Hata)

*P. trifasciatus*, UPVMI 328, 41.7 mm SL

Family Nemipteridae

Nemipterus aurora

Russell 1993

En Dawn Threadfin Bream

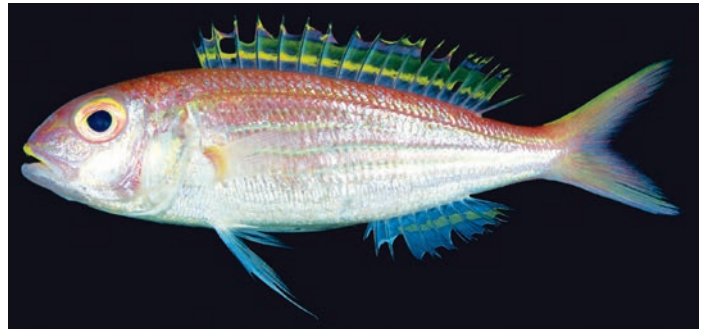
C • Tip of upper caudal-fin lobe rounded • Upper lip yellow • 4–5 ascending white or yellowish stripes below lateral line

D Western Pacific (Japan to Indonesia)

H Sandy and muddy bottoms

S 20 cm SL

(Y. Ando)

*N. aurora*, KAUM-I. 56014, 138.9 mm SL

Family Nemipteridae

Nemipterus balinensoides

(Popta 1918)

En Dwarf Threadfin Bream

C • Tip of upper caudal-fin lobe pointed • Suborbital narrow • Yellow blotch at above pectoral-fin base

D Western Pacific (Philippines and Thailand to Indonesia, Australia, and New Caledonia)

H Sandy and muddy bottoms

S 13 cm SL

(Y. Ando)

*N. balinensoides*, KAUM-I. 56008, 88.1 mm SL

Family Nemipteridae

Nemipterus bathybius

Snyder 1911

En Yellowbelly Threadfin Bream

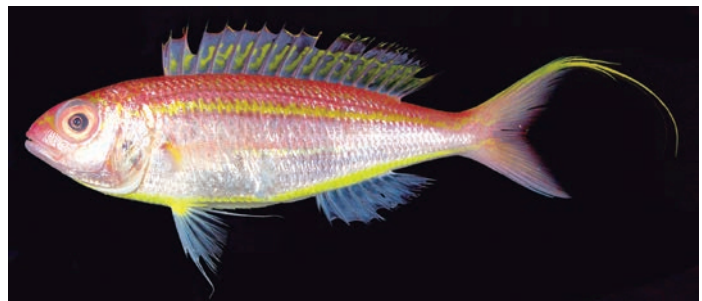
C • Upper caudal-fin lobe filamentous • Dorsal fin with wavy yellow lines • 3 yellow stripes on lateral surface of body

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Australia)

H Sandy and muddy bottoms

S 20 cm SL

(Y. Ando)

*N. bathybius*, UPVMI 322, 149.0 mm SL*N. bathybius*, KAUM-I. 56015, 156.2 mm SL



N. furcosus, UPVMI 1706, 199.3 mm SL

Family Nemipteridae

Nemipterus furcosus

(Valenciennes 1830)

En Fork-tailed Threadfin Bream

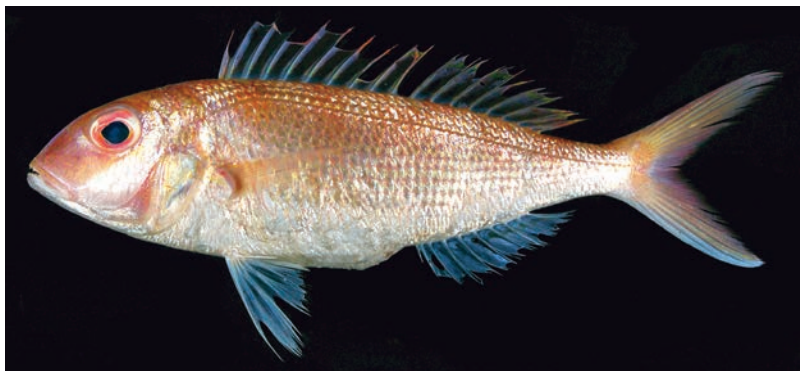
C • Tip of upper caudal-fin lobe pointed • Body pink with dark red saddles on back
• Caudal fin yellowish to pinkish; lower margin white

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan, Australia, and New Caledonia)

H Sandy and muddy bottoms

S 20 cm SL

(Y. Ando)



N. furcosus, UPVMI 307, 190.3 mm SL

Family Nemipteridae

Nemipterus hexodon

(Quoy & Gaimard 1824)

En Ornate Threadfin Bream

C • Tip of upper caudal-fin lobe rounded • Red blotch just below origin of lateral line • 6–8 pale yellow stripes on lateral surface of body

D Eastern Indian and western Pacific oceans (Andaman Sea to Taiwan, Solomon Is., and Australia)

H Sandy and muddy bottoms

S 21 cm SL

(Y. Ando)



N. hexodon, UPVMI 342, 155.5 mm SL

Family Nemipteridae

Nemipterus japonicus

(Bloch 1791)

En Japanese Threadfin Bream

C • Upper caudal-fin lobe filamentous • Pale red blotch at origin of lateral line • 11–12 pale yellow stripes on lateral surface of body

D Indo-West Pacific (East Africa to Indonesia and Philippines)

H Sandy and muddy bottoms

S 25 cm SL

(Y. Ando)



N. japonicus, KAUM-I. 56009, 160.8 mm SL

Family Nemipteridae

Nemipterus nematophorus
(Bleeker 1854)

En Doublewhip Threadfin Bream

C • Upper caudal-fin lobe filamentous • First dorsal-fin spine very close to second dorsal-fin spine and produced filament

D Eastern Indian and western Pacific oceans (Bay of Bengal to Philippines and Indonesia)

H Sandy and muddy bottoms

S 20 cm SL

(Y. Ando)

*N. nematophorus*, KAUM-I. 80636, 148.0 mm SL

Family Nemipteridae

Nemipterus nematopus
(Bleeker 1851)

En Yellowtipped Threadfin Bream

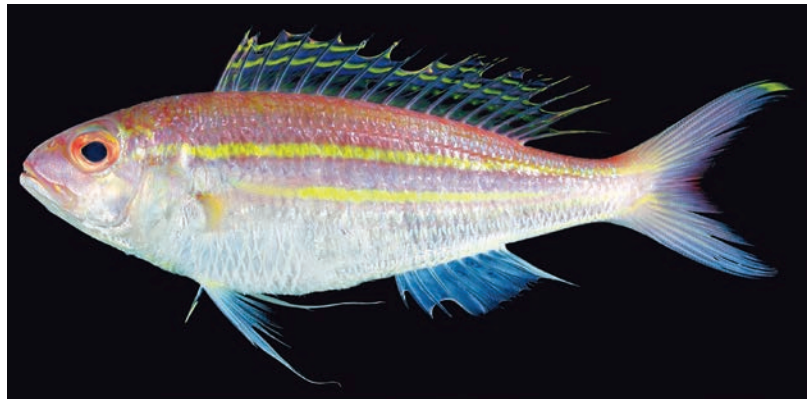
C • Tip of upper caudal-fin lobe slightly pointed • Dorsal fin with 3 yellow stripes • 2 yellow stripes on lateral surface of body

D Western Pacific (Philippines to Australia)

H Sandy and muddy bottoms

S 18 cm SL

(Y. Ando)

*N. nematopus*, KAUM-I. 80685, 130.5 mm SL

Family Nemipteridae

Nemipterus zysron
(Bleeker 1856)

En Slender Threadfin Bream

C • Tip of upper caudal-fin lobe falcate • Body elongate • A broad yellow band from snout to lower margin of orbit

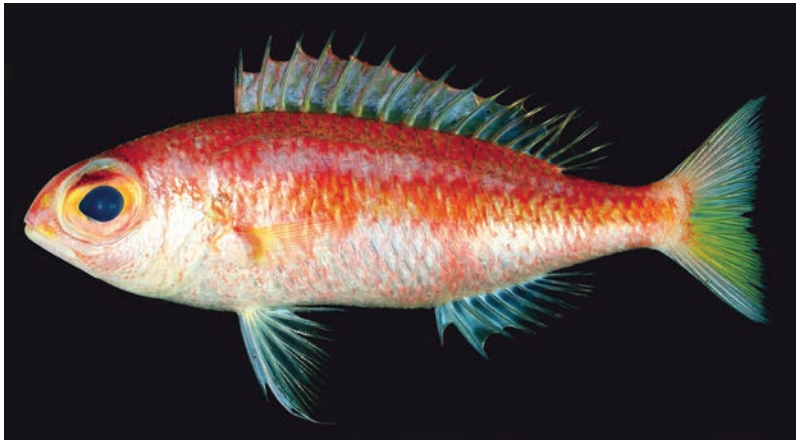
D Indo-West Pacific (East Africa to Philippines to Taiwan and Fiji)

H Sandy and muddy bottoms

S 19 cm SL

(Y. Ando)

*N. zysron*, KAUM-I. 56007, 171.1 mm SL*N. zysron*, UPVMI 343, 151.4 mm SL











P. eriomma, KAUM-I. 52613, 111.8 mm SL


Family Nemipteridae


Parascolopsis eriomma


(Jordan & Richardson 1909)

 Rosy Dwarf Monocle Bream

-   14–16 total gill rakers 
-  2nd anal-fin spine longer and more robust than 3rd anal-fin spine 
-  Preopercle naked 
-  Body with a faint broad yellow band laterally

 Indo-West Pacific (east coast of Africa to Japan and Indonesia)

 Sandy and muddy bottoms in offshore waters

 26 cm SL

(K. Fujiwara)



P. eriomma, UPVMI 1634, 158.0 mm SL



P. eriomma, UPVMI 182, 217.8 mm SL

Family Nemipteridae

Parascolopsis inermis

(Temminck & Schlegel 1843)

En Unarmed Dwarf Monocle Bream

C • 9–12 total gill rakers • 4th or 5th dorsal-fin soft ray not notably elongate • Preopercle naked • 4 reddish blown bands across dorsum from nape to caudal-fin base

D Indo-West Pacific (Laccadive Is. to Japan and Indonesia)

H Sandy and muddy bottoms in offshore waters

S 12 cm SL

R Although *P. inermis* is similar to *P. tanyactis* Russell 1986, the former is distinguished from the latter by 4th or 5th dorsal-fin soft ray not notably elongate (vs. notably elongate).

(K. Fujiwara)

*P. inermis*, KAUM-I. 80782, 103.9 mm SL

Family Nemipteridae

Parascolopsis tanyactis

Russell 1986

En Longrayed Dwarf Monocle Bream

C • 4th or 5th dorsal-fin soft ray notably elongate • Preopercle naked • Dusky yellow band joining nostrils across snout • 2 black blotches on dorsal-fin base

D Western Pacific (Philippines to Australia)

H Sandy and muddy bottoms in offshore waters

S 21 cm SL

(K. Fujiwara)

*P. tanyactis*, KAUM-I. 91773, 133.6 mm SL*P. tanyactis*, KAUM-I. 91774, 118.3 mm SL



P. bifasciatus, KAUM-I. 80739, 97.9 mm SL



P. bifasciatus, KAUM-I. 56092, 72.0 mm SL



P. nagasakiensis, KAUM-I. 52627, 123.8 mm SL



P. setosus, KAUM-I. 52610, 114.1 mm SL



P. setosus, KAUM-I. 80781, 103.9 mm SL

Family Nemipteridae

Pentapodus bifasciatus

(Bleeker 1848)

En Whiteshouldered Whiptail

C • 2nd anal-fin spine shorter and less robust than 3rd anal-fin spine • Caudal-fin lobes pointed
• Head scales reaching forward dorsally to between level of posterior and anterior nostrils • 2 distinct yellow stripes on lateral surface of body

D Western Pacific (Philippines to Indonesia)

H Shallow coral reef areas

S 15 cm SL

R This species is similar to *P. caninus* (Cuvier 1830) in having 2 distinct yellow stripes on the lateral surface of the body, but differs in having the pointed caudal-fin lobes (vs. falcated lobes)

(K. Fujiwara)

Family Nemipteridae

Pentapodus nagasakiensis

(Tanaka 1915)

En Japanese Whiptail

C • Snout length equal to or less than eye diameter • Head scales reaching forward dorsally to anterior margin of eye • Lower limb of preopercle naked • Body blown to yellow dorsally, white ventrally

D Western Pacific (Japan to Australia)

H Offshore waters

S 15 cm SL

R This species is very similar to *P. aureofasciatus* Russell 2001 in having the head scales reaching forward dorsally to the anterior margin of the eye and pointed caudal-fin lobes, but the former can be distinguished from the latter species by the naked lower limb of the preopercle (vs. scaly)

(K. Fujiwara)

Family Nemipteridae

Pentapodus setosus

(Valenciennes 1830)

En Butterfly Whiptail

C • 46–48 lateral-line scales • Caudal fin forked, upper lobe produced into a very long trailing filament • Lower limb of preopercle naked • 2 bluish stripes on snout; first from tip of snout to middle of eye, second from upper lip to lower margin of eye

D Western Pacific (Philippines to Indonesia)

H Offshore waters

S 18 cm SL

R This species is very similar to *P. paradiseus* (Günther 1859) in having a long trailing filament of the upper caudal-fin lobe and a naked lower limb of the preopercle, but the former can be distinguished from the latter by 2 bluish stripes on the snout (vs. 3 bluish stripes)

(K. Fujiwara)

Family Nemipteridae

Pentapodus trivittatus

(Bloch 1791)

En Threestriped Whiptail

C • Lower limb of preopercle scaly • Head scales reaching forward dorsally to anterior margin of eye • Body pale with 3 dusky longitudinal stripes • Dark bar at pectoral-fin base

D Western Pacific (Philippines to Solomon Is. and Indonesia)

H Sandy and coral reefs in coastal waters

S 19 cm SL

(K. Fujiwara)

*P. trivittatus*, KAUM-I. 80644, 214.3 mm SL

Family Nemipteridae

Scolopsis marginalifer

(Cuvier 1830)

En Pearly Monocle Bream

C • 37–39 lateral-line scales • Small forward pointing spine below eye absent • Head scales reaching forward dorsally to anterior margin of eye • Soft-rayed portion of dorsal fin and lower caudal-fin lobe reddish

D Western Pacific (Japan to Australia and Vanuatu)

H Offshore waters

S 18 cm SL

(K. Fujiwara)

*S. marginalifer*, UPVMI 1328, 138.8 mm SL

Family Nemipteridae

Scolopsis monogramma

(Cuvier 1830)

En Monogrammed Monocle Bream

C • 46–49 lateral-line scales • 5–6 transverse scale rows between lateral line and first dorsal-fin spine base • Head scales reaching forward dorsally to between anterior margin of eyes and posterior nostril • 3 blue stripes on snout

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Australia)

H Sandy bottoms near reefs

S 26 cm SL

R Protogyny

(K. Fujiwara)

*S. monogramma*, UPVMI 1238, 235.7 mm SL

*S. taenioptera*, UPVMI 159, 73.9 mm SL*S. taenioptera*, UPVMI 337, 63.0 mm SL

Family Nemipteridae

Scolopsis taenioptera
(Cuvier 1830)

En Lattice Monocle Bream

C • Lower limb of preopercle naked • Head scales reaching forward dorsally to posterior nostril • Opercular ridge naked • Distinct red blotch at upper pectoral-fin base

D Western Pacific (Taiwan to Australia)

H Sandy or muddy bottoms in offshore waters

S 20 cm SL

(K. Fujiwara)

*S. vosmeri*, KAUM-I. 52620, 111.8 mm SL

Family Nemipteridae

Scolopsis vosmeri
(Bloch 1792)

En Whitecheek Monocle Bream

C • Small forward pointing spine present below eye • Pectoral fins not reaching to level of anus • Head scales reaching forward dorsally to between level of snout and anterior nostril • Distinct, broad white vertical bar on head

D Indo-West Pacific (east coast of Africa to Japan and Australia)

H Sandy or muddy bottoms in inshore waters

S 16 cm SL

(K. Fujiwara)

Family Sparidae

Acanthopagrus pacificus

Iwatsuki, Kume & Yoshino 2010

En Pacific Seabream

C • 42–46 lateral-line scales • 3.5 transverse scale rows between lateral line and median spinous portion of dorsal fin • Head and body silvery black • Pelvic and anal fins dark gray

D Western Pacific (Japan to Australia), except for oceanic islands

H Bays and estuaries

S 60 cm SL

(S. N. Chiba)

*A. pacificus*, UPVMI 1659, 324.0 mm SL

Family Sparidae

Argyrops bleekeri

Oshima 1927

En King Soldier Bream

C • 8 anal-fin soft rays • Anterior spines of dorsal-fin soft and elongated into filament • Body deep • Body red, without bluish spots

D Western Pacific (Japan to Indonesia), except for oceanic islands

H Offshore waters

S 40 cm SL

(S. N. Chiba)

*A. bleekeri*, UPVMI 227, 231.6 mm SL

Family Lethrinidae

Gymnocranius elongatus

Senta 1973

En Forktail Large-eye Bream

C • Cheek with scales • Maxilla without serrated ridge • Teeth on lateral side of lower jaw conical • Both lobes of caudal fin pointed • Length of middle caudal-fin ray less than eye diameter

D Eastern Indian and western Pacific oceans (East Africa and Seychelles to Japan and Solomon Is.)

H Gravel bottoms and rocky reefs deeper than 50 m

S 25 cm SL

(S. N. Chiba)

*G. elongatus*, UPVMI 1672, 155.0 mm SL



G. grandoculis, UPVMI 1085, 276.3 mm SL



G. grandoculis, UPVMI 1775, 293.7 mm SL

Family Lethrinidae

Gymnocranius grandoculis

(Valenciennes 1830)

 Blue-lined Large-eye Bream

C • Cheek with scales • Maxilla without serrated ridge • Teeth on lateral side of lower jaw conical • Length of middle caudal-fin ray greater than eye diameter • Body depth 2.3 or more in SL • Several wavy blue lines on snout and cheek

D Indo-Pacific (East Africa to Japan and French Polynesia), except for Hawaiian and Easter islands

H Gravel bottoms and rocky reefs deeper than 50 m

S 65 cm SL

(S. N. Chiba)




G. griseus, UPVMI 1329, 197.2 mm SL

Family Lethrinidae

Gymnocranius griseus

(Temminck & Schlegel 1843)

 Grey Large-eye Bream

C • Cheek with scales • Maxilla without serrated ridge • Teeth on lateral side of lower jaw conical • Length of middle caudal-fin ray greater than eye diameter • Body depth 2.2 or less in SL

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Australia)

H Gravel bottoms and rocky reefs shallower than 100 m

S 30 cm SL

(S. N. Chiba)

Family Lethrinidae

Lethrinus atkinsoni

Seale 1910

En Pacific Yellowtail Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body without dark blotch • Dorsal-fin spines not elongated • Both lobes of caudal fin pointed • Each scale on dorsal half of body with dark spot • Pelvic fins pale

D Eastern Indian and Pacific oceans (Keeling Is. to Japan and Tuamotu Is.)

H Gravel bottoms, rocky and coral reefs shallower than 100 m

S 40 cm SL

(S. N. Chiba)

*L. atkinsoni*, UPVMI 1087, 256.9 mm SL*L. erythracanthus*, UPVMI 1652, 259.3 mm SL

Family Lethrinidae

Lethrinus erythracanthus

Valenciennes 1830

En Orange-spotted Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body without dark blotch • Dorsal-fin spines not elongated • Both lobes of caudal fin rounded

D Indo-Pacific (East Africa to Japan and Tuamotu Is.)

H Gravel bottoms, rocky and coral reefs shallower than 100 m

S 60 cm SL

(S. N. Chiba)

*L. erythracanthus*, UPVMI 149, 172.8 mm SL

Family Lethrinidae

Lethrinus genivittatus

Valenciennes 1830

En Longspine Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body without dark blotch • 2nd dorsal-fin spines longest, distinctly elongated

D Eastern Indian and western Pacific oceans (Indonesia to Japan and Caroline Is.)

H Gravel bottoms, rocky and coral reefs shallower than 100 m

S 20 cm SL

(S. N. Chiba)

*L. genivittatus*, UPVMI 1630, 118.4 mm SL



L. harak, UPVMI 977, 217.3 mm SL

Family Lethrinidae

Lethrinus harak

(Forsskål 1775)

En Thumbprint Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body with large dark blotch

D Indo-West Pacific (East Africa to Japan and Samoa)

H Seaweed beds, gravel bottoms

S 45 cm SL

(S. N. Chiba)



L. lentjan, UPVMI 1513, 120.0 mm SL

Family Lethrinidae

Lethrinus lentjan

(Lacepède 1802)

En Pink Ear Emperor

C • Cheek without scales • Pectoral-fin axilla without or with few scales • 6 transverse scale rows between lateral line and median spinous portion of dorsal fin • Body depth 2.6–2.8 in SL

D Indo-West Pacific (East Africa to Japan and Tonga)

H Gravel bottoms shallower than 100 m

S 45 cm SL

(S. N. Chiba)



L. microdon, UPVMI 1128, 316.0 mm SL

Family Lethrinidae

Lethrinus microdon

Valenciennes 1830

En Smalltooth Emperor

C • Cheek without scales • Pectoral-fin axilla without or with few scales • 5 transverse scale rows between lateral line and median spinous portion of dorsal fin • Body depth 0.9–1.2 in SL • Snout with several dark lines radiating from eye

D Indo-West Pacific (East Africa to Japan and Papua New Guinea)

H Coral reefs

S 55 cm SL

(S. N. Chiba)



L. nebulosus, UPVMI 331, 222.4 mm SL

Family Lethrinidae

Lethrinus nebulosus

(Forsskål 1775)

En Spangled Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Dorsal-fin spines not elongated • Both lobes of caudal fin pointed • 6 transverse scale rows between lateral line and median spinous portion of dorsal fin • Snout and cheek with 2–3 light blue oblique bands

D Indo-West Pacific (East Africa to Japan and Samoa)

H Gravel bottoms, rocky and coral reefs

S 65 cm SL

(S. N. Chiba)

Family Lethrinidae

Lethrinus obsoletus

(Forsskål 1775)

En Orange-striped Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body without dark blotch • Dorsal-fin spines not elongated • Both lobes of caudal fin pointed • 6 transverse scale rows between lateral line and median spinous portion of dorsal fin • Posterior margin of preopercle not red • Body with one longitudinal yellowish-orange stripe

D Indo-West Pacific (East Africa to Japan and Samoa)

H Coral reefs

S 40 cm SL

(S. N. Chiba)

*L. obsoletus*, UPVMI 1088, 253.2 mm SL

Family Lethrinidae

Lethrinus olivaceus

(Valenciennes 1830)

En Longface Emperor

C • Cheek without scales • Pectoral-fin axilla without or with few scales • 6 transverse scale rows between lateral line and median spinous portion of dorsal fin • Body depth 3.0–3.3 in SL

D Indo-West Pacific (East Africa to Japan and Samoa)

H Rocky and coral reefs

S 80 cm SL

(S. N. Chiba)

*L. olivaceus*, UPVMI 1633, 143.2 mm SL

Family Lethrinidae

Lethrinus ornatus

Valenciennes 1830

En Ornate Emperor

C • Cheek without scales • Pectoral-fin axilla with many minute scales • Body without dark blotch • Dorsal-fin spines not elongated • Both lobes of caudal fin pointed • 6 transverse scale rows between lateral line and median spinous portion of dorsal fin • Posterior margin of preopercle red • Body with several longitudinal orange stripes

D Indo-West Pacific (Maldives to Japan and Australia)

H Rocky and coral reefs

S 30 cm SL

(S. N. Chiba)

*L. ornatus*, UPVMI 335, 169.9 mm SL



L. rubrioperculatus, UPVMI 453, 305.0 mm SL

Family Lethrinidae

Lethrinus rubrioperculatus

Sato 1978

En Spotcheek Emperor

C ● Cheek without scales ● Pectoral-fin axilla without or with few scales ● Body without dark blotch ● 5 transverse scale rows between lateral line and median spinous portion of dorsal fin ● Body depth about 0.9–1.2 in head length ● Snout and cheek without dark lines and dots ● Posterior part of opercle with scaleless area ● No red markings on snout, preopercle, or pectoral-fin base

D Indo-Pacific (East Africa to Japan and French Polynesia), except for Hawaiian and Line islands

H Gravel bottoms, rocky and coral reefs

S 40 cm SL

(S. N. Chiba)



A. nibe, KAUM-I. 80632, 169.2 mm SL

Family Sciaenidae

Atrobucca nibe

(Jordan & Thompson 1911)

En Blackmouth Croaker

C ● 27–33 dorsal-fin soft rays ● Swimbladder with numerous appendages ● Body silvery, pectoral fin blackish ● Oral cavity uniformly black

D Indo-West Pacific (South Africa to Japan and Indonesia)

H Sandy or muddy bottoms

S 45 cm SL

(M. Matsunuma)



A. nibe, UPVMI 1622, 387.4 mm SL



A. nibe, KAUM-I. 80630, 195.0 mm SL

Family Sciaenidae

Dendrophysa russelii

(Cuvier 1829)

En Goatee Croaker

C • 5 mental pores • Single barbel on chin • Swimbladder carrot-shaped with about 14–17 pairs of fan-like appendages • Opercle golden with blue blotch

D Eastern Indian and western Pacific oceans (Bay of Bengal to China and Indonesia)

H Sandy or muddy bottoms

S 25 cm SL

(M. Matsunuma)

*D. russelii*, KAUM-I. 57208, 97.4 mm SL

Family Sciaenidae

Johnius amblycephalus

(Bleeker 1855)

En Bearded Croaker

C • 6 mental pores • Single short barbel on chin • Swimbladder hammer-shaped with about 14 or 15 pairs of appendages • Body dark gray

D Indo-West Pacific (Pakistan to China and Australia)

H Sandy or muddy bottoms

S 25 cm SL

(M. Matsunuma)

*J. amblycephalus*, KAUM-I. 80772, 84.9 mm SL

Family Sciaenidae

Johnius borneensis

(Bleeker 1851)

En Sharpnose Hammer Croaker

C • 6 mental pores • No barbel on chin • Swimbladder hammer-shaped with about 14–17 pairs of appendages • Body silvery

D Indo-West Pacific (Persian Gulf to China and New Guinea)

H Sandy or muddy bottoms

S 30 cm SL

(M. Matsunuma)

*J. borneensis*, KAUM-I. 80634, 175.5 mm SL

Family Sciaenidae

Nibea semifasciata

Chu, Lo & Wu 1963

En Sharpnose Croaker

C • 6 mental pores • Snout pointed, projecting in front of upper jaw • Swimbladder carrot-shaped with 17–20 pairs of appendages • Anal, pectoral, and pelvic fins yellowish

D East China Sea, Gulf of Thailand, and Philippines

H Sandy or muddy bottoms

S 24 cm SL

R Present specimen represents the first record of the species from the Philippines

(M. Matsunuma)

*N. semifasciata*, UPVMI 510, 147.7 mm SL



O. ruber, KAUM-I. 80801, 210.0 mm SL

Family Sciaenidae

Otolithes ruber

(Bloch & Schneider 1801)

En Tigertooth Croaker

C • Body very elongate • Strong canine teeth in upper jaw or both jaws • Swimbladder carrot-shaped with 32–36 pairs of fan-like appendages • Body silvery

D Indo-West Pacific (South Africa to China and Australia)

H Sandy or muddy bottoms

S 70 cm SL

(M. Matsunuma)



P. anea, UPVMI 191, 179.8 mm SL

Family Sciaenidae

Pennahia anea

(Bloch 1793)

En Donkey Croaker

C • 22–24 dorsal-fin soft rays • 4 mental pores • Swimbladder carrot-shaped with 17–22 pairs of fan-like appendages • Body silvery

D Indo-West Pacific (Persian Gulf to China and Philippines)

H Sandy or muddy bottoms

S 30 cm SL

(M. Matsunuma)



S. aeolus, UPVMI 124, 149.4 mm SL

Family Sillaginidae

Sillago aeolus

Jordan & Evermann 1902

En Oriental Sillago

C • Usually 18 anal-fin soft rays • Body relatively deep • Swimbladder with 3 anterior rudimental extensions • Body golden with dark blotches

D Indo-West Pacific (South Africa to Japan and Indonesia)

H Sandy bottoms

S 30 cm SL

(M. Matsunuma)



S. sihama, UPVMI 532, 152.6 mm SL

Family Sillaginidae

Sillago sihama

(Forskål 1775)

En Silver Sillago

C • 21–23 anal-fin soft rays • Body elongate • Swimbladder with 2 posterior extensions • Body silvery without dark markings

D Indo-West Pacific (South Africa to Japan and New Caledonia)

H Sandy bottoms

S 30 cm SL

(M. Matsunuma)

Family Mullidae

Parupeneus barberinus

(Lacepède 1801)

En Dash-and-dot Goatfish

C • A dark brown stripe from upper lip through eye to below middle of second dorsal-fin base • A yellow stripe above black stripe • A large black spot on caudal-fin base

D Indo-West Pacific (South Africa to Japan and New Caledonia), except for Red Sea

H Sandy and rubble area near reefs to 100 m depth

S 50 cm SL

R All specimens collected from Panay I. had a yellow stripe above the dark brown stripe on the body
(K. Koeda)

*P. barberinus*, KAUM-I. 69434, 97.8 mm SL*P. chrysopleuron*, UPVMI 222, 127.7 mm SL

Family Mullidae

Parupeneus chrysopleuron

(Temminck & Schlegel 1843)

En Yellowstriped Goatfish

C • 15–16 pectoral-fin rays • A yellow stripe from eye to caudal-fin base just above lateral line • Barbels white to pale yellow • No large dark spot on caudal peduncle

D Eastern Indian and western Pacific oceans (Myanmar to Japan and Indonesia)

H Muddy area near reefs

S 50 cm SL

(K. Koeda)

*P. heptacanthus*, UPVMI 226, 173.1 mm SL

Family Mullidae

Parupeneus heptacanthus

(Lacepède 1802)

En Cinnabar Goatfish

C • A dark reddish spot present just below posterior end of first dorsal fin • Posterior end of maxilla oblique • No dark stripe on upper side of body • No dark spot on side of caudal peduncle

D Indo-West Pacific (east coast of Africa to Japan and Fiji)

H Muddy, sandy, rubble, or sea grass areas of lagoon and reefs

S 23 cm SL

(K. Koeda)

*P. heptacanthus*, UPVMI 1327, 255.3 mm SL



P. indicus, UPVMI 1508, 189.0 mm SL

Family Mullidae

Parupeneus indicus

(Shaw 1803)

En Indian Goatfish

C • 27–28 lateral-line scales • Bright yellow oval patch on upper back, without dark brown stripe • A large black spot on caudal peduncle

D Indo-West Pacific (South Africa to Japan and Samoa)

H Sandy or silty area of lagoon and seaward reefs

S 23 cm SL

(K. Koeda)



P. multifasciatus, UPVMI 768, 139.6 mm SL

Family Mullidae

Parupeneus multifasciatus

(Quoy & Gaimard 1825)

En Manybar Goatfish

C • 4 or 5 dark bars on body • Barbels white to pale yellow • Barbels long, its length 1.1 to 1.4 times in HL

D Eastern Indian and Pacific oceans (Christmas I. to Hawaiian and Tuamotu Is.)

H Sandy, rubble, or coral reef areas

S 20 cm SL

(K. Koeda)



U. guttatus, UPVMI 155, 96.4 mm SL

Family Mullidae

Upeneus guttatus

(Quoy & Gaimard 1825)

En Two-tone Goatfish

C • 13–14 pectoral-fin rays • 5 reddish cross bars on upper caudal-fin lobe • First dorsal-fin tip pale • Barbels white to yellow

D Indo-West Pacific (South Africa to Japan and New Caledonia)

H Sandy or muddy areas

S 16 cm SL

(K. Koeda)



U. japonicus, KAUM-I. 91785, 100.3 mm SL

Family Mullidae

Upeneus japonicus

(Houttuyn 1782)

En Japanese Goatfish

C • 24–27 gill rakers • Posterior tips of depressed barbels extending well beyond vertical through preopercular margin • Ventral and posterior margins of lower lobe white, and remaining part of lobe uniformly red with narrow black margin posteroventrally

D Western Pacific (East Asia to Philippines and Malaysia)

H Sandy bottoms in depths of less than 400 m

S 16 cm SL

R The present specimen was tentatively identified as *U. japonicus*; further studies may reveal that it is an undescribed species

(H. Motomura)

Family Mullidae

Upeneus moluccensis

(Bleeker 1855)

En Goldband Goatfish

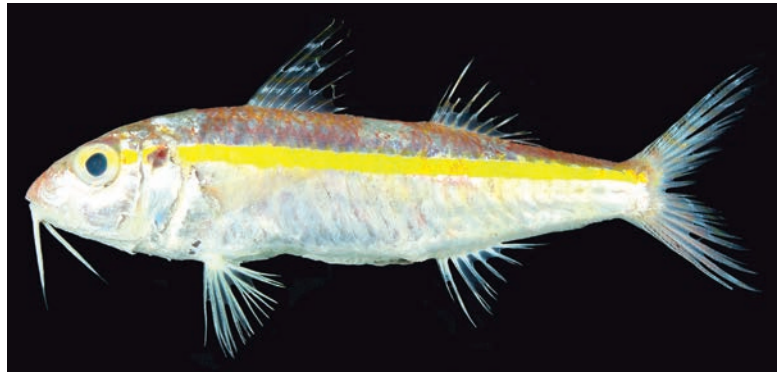
C • VIII, 9 dorsal-fin rays • Golden yellow stripe from eye to upper base of caudal fin • 6–7 dark cross bars on upper caudal-fin lobe • First dorsal-fin tip dark • Barbels white

D Indo-West Pacific (Mozambique to Japan and Australia)

H Muddy areas

S 17 cm SL

(K. Koeda)

*U. moluccensis*, UPVMI 232, 115.6 mm SL

Family Mullidae

Upeneus stenopsis

Uiblein & McGrouther 2012

En Narrow-tail Goatfish

C • Body relatively slender, its depth at dorsal-fin origin 22.0–25.0% of SL • Eye relatively large, its diameter 9.2–9.9% of SL • 4–5 and 3–4 dark cross bars on upper and lower caudal-fin lobes respectively

D Philippines and Australia

H 127–275 m depth

S 13 cm SL

R The species was recently described as a new species on the basis of 4 specimens from Australia and the Philippines. The present specimen represents the 2nd record of the species

(K. Koeda)

*U. moluccensis*, UPVMI 961, 94.8 mm SL*U. stenopsis*, KAUM-I. 93568, 113.7 mm SL

Family Mullidae

Upeneus subvittatus

(Temminck & Schlegel 1843)

En Deep-water Goatfish

C • No stripes on lateral surface of body • 4–6 and 3–4 dark cross bars on upper and lower caudal-fin lobes respectively • Barbels white

D Western Pacific (Japan to Indonesia)

H Sandy and muddy areas in coastal waters

S 21 cm SL

(K. Koeda)

*U. subvittatus*, UPVMI 1691, 188.0 mm SL



U. sulphureus, KAUM-I. 57209, 94.7 mm SL

Family Mullidae

Upeneus sulphureus

Cuvier 1829

 Sulphur Goatfish

C • Body pale brown dorsally and white ventrally • 2 yellow stripes on lateral surface of body • No bars on caudal-fin lobes

D Indo-West Pacific (Mozambique to Japan and Fiji)

H Muddy area, often entering estuaries

S 19 cm SL

(K. Koeda)



U. sundaicus, KAUM-I. 52601, 149.2 mm SL

Family Mullidae

Upeneus sundaicus

(Bleeker 1855)

 Ochre-banded Goatfish

C • A pale brown to yellow mid-lateral stripe from behind eye to caudal-fin base • First dorsal-fin tip pale • No bars on caudal-fin lobes

D Indo-West Pacific (Pakistan to Japan and Australia)

H Muddy or silty sand bottoms

S 19 cm SL

(K. Koeda)



U. sundaicus, UPVMI 154, 93.5 mm SL

Family Mullidae

Upeneus tragula

Richardson 1846

En Freckled Goatfish

C • VIII dorsal-fin spines • Dark reddish stripe from snout to caudal-fin base • Body and fins flecked with small dark reddish brown spots • Caudal fin with dark reddish bands

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and New Caledonia)

H Sandy bottoms in coastal waters at depths of less than 42 m

S 19 cm SL

(K. Koeda & H. Motomura)



U. tragula, UPVMI 914, 97.7 mm SL

Family Mullidae

Upeneus vittatus

(Forsskål 1775)

En Yellowstriped Goatfish

C • Body silvery with 4 distinct narrow brassy yellow stripes • First dorsal-fin tip pale • 3 dark cross bars on lower caudal-fin lobe, distal bar nearly twice as broad than middle band

D Indo-Pacific (South Africa to Hawaiian and Society Is.)

H Muddy areas

S 30 cm SL

(K. Koeda)



U. vittatus, UPVMI 153, 140.6 mm SL

Family Pempheridae

Parapriacanthus ransonneti

Steindachner 1870

En Pigmy Sweeper

C • Body elongate • V, 8–10 dorsal-fin rays • III, 18–23 anal-fin rays • 60–79 lateral-line scales • Lateral line extending about half-way along middle caudal-fin ray

D Indo-West Pacific (South Africa to Japan and New Caledonia)

H Shallow rocky or coral reef areas

S 6 cm SL

R Found in large groups under coral overhangs and in caves. Nocturnal

(K. Koeda)



P. ransonneti, KAUM-I. 80807, 48.7 mm SL



P. ransonneti, KAUM-I. 80808, 50.3 mm SL



G. buergeri, UPVMI 553, 468.1 mm SL



G. buergeri, KAUM-I. 52611, 94.7 mm SL

Family Glaucosomatidae

Glaucosoma buergeri

Richardson 1845

 Grey Bigmouth Bream

C • 11 dorsal-fin soft rays • 9 anal-fin soft rays • 49–51 pored lateral-line scales • Narrow horizontal bands on body in juveniles

D Eastern Indian and western Pacific oceans (Western Australia to Japan)

H Continental shelves

S 47 cm SL

(M. Nakae)




D. punctata, UPVMI 918, 281.5 mm SL

Family Drepaneidae

Drepane punctata

(Linnaeus 1758)

 Spotted Sickfish

C • VIII–X, 19–22 dorsal-fin rays • III, 16–19 anal-fin rays • 46–50 pored lateral-line scales • Body very deep, strongly compressed • Pectoral fins elongate • Body with 5–10 series of black spots forming vertical lines

D Indo-West Pacific (east coast of Africa to Japan, Samoa, and Australia)

H Coastal waters

S 40 cm TL

(T. Uejo)

Family Chaetodontidae

Chaetodon baronessa

Cuvier 1829

En Baroness Butterflyfish

C • XI–XII, 22–26 dorsal-fin rays • III, 20–22 anal-fin rays • 16–23 pored lateral-line scales • Many narrow blue or brown bands on body • Dark triangular marking on caudal fin

D Eastern Indian and western Pacific oceans (Cocos-Keeling I. to Japan and Fiji)

H Coral reefs at depths of less than 10 m

S 15 cm TL

R Similar to an Indian Ocean sister species *C. triangulum* Cuvier 1831

(T. Uejo)

*C. baronessa*, UPVMI 959, 87.9 mm SL

Family Chaetodontidae

Chaetodon guentheri

Ahl 1923

En Gunther's Butterflyfish

C • XIII, 20–23 dorsal-fin rays • III, 18–20 anal-fin rays • 36–38 pored lateral-line scales • Pelvic fins white • Many dark spots on silver–white body • Pale yellow area across posterior body, dorsal and anal fins, caudal-fin base, and caudal fin

D Western Pacific (Japan to Australia)

H Coral reefs at depths of 5–40 m

S 15 cm TL

(T. Uejo)

*C. guentheri*, UPVMI 800, 101.9 mm SL

Family Chaetodontidae

Chaetodon kleinii

Bloch 1790

En Klein's Butterflyfish

C • XIII–XIV, 20–23 dorsal-fin rays • III, 17–20 anal-fin rays • 29–39 pored lateral-line scales • White vertical bar at caudal-fin base • Dorsal head black • Black vertical band through eye • Pelvic fins black • Body, dorsal and anal fins yellow posteriorly • Caudal fin yellow anteriorly

D Indo-Pacific Ocean (East Africa to Hawaiian Is. and French Polynesia)

H Coral reefs at depths of less than 60 m

S 18 cm TL

(T. Uejo)

*C. kleinii*, KAUM-I. 69437, 34.2 mm SL



C. vagabundus, KAUM-I. 80733, 45.5 mm SL

Family Chaetodontidae

Chaetodon vagabundus

Linnaeus 1758

Vagabond Butterflyfish

XII–XIII, 22–25 dorsal-fin rays • III, 19–20 anal-fin rays • 30–37 pored lateral-line scales • Ascendant and descendant oblique dark lines on anterior and posterior halves of body respectively

Indo-Pacific Ocean (East Africa to Japan and French Polynesia)

Coral reefs at depths of less than 30 m

23 cm TL

(T. Uejo)

Family Chaetodontidae

Coradion chrysozonus

(Cuvier 1831)

Orangebanded Coralfish

IX, 28–30 dorsal-fin rays • III, 19–22 anal-fin rays • 48–52 pored lateral-line scales • Black bar extending to pelvic-fin base through eye • Pair of closely spaced yellowish brown bands behind head • Brownish yellow band on posterior portion of body

Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Solomon Is.)

Coral reefs at depths of less than 60 m

17 cm TL

(T. Uejo)



C. chrysozonus, KAUM-I. 56030, 87.5 mm SL

Family Chaetodontidae

Heniochus acuminatus

(Linnaeus 1758)

Longfin Bannerfish

XI, 23–27 dorsal-fin rays • III, 16–19 anal-fin rays • 49–52 pored lateral-line scales • 5–7 rows of teeth on each jaw • Black area on posterior part of anal fin usually not extending anteriorly to longest anal-fin soft ray

Indo-Pacific Ocean (East Africa to Japan and French Polynesia)

Coral reefs at depths of less than 100 m

25 cm TL

(T. Uejo)



H. acuminatus, UPVMI 731, 155.6 mm SL



P. ocellatus, KAUM-I. 80821, 87.7 mm SL

Family Chaetodontidae

Parachaetodon ocellatus

(Cuvier 1831)

En Ocellate Coralfish

- C** • VI, 28–30 dorsal-fin rays
 • III, 18–20 anal-fin rays
 • 34–44 pored lateral-line scales • Elevated, triangular dorsal fin • 5 brown to orange bands on head and body • Large black blotch at middle of dorsal-fin base on 4th band
- D** Eastern Indian and western Pacific oceans (Sri Lanka to Japan, Fiji, and Australia)
- H** Coral reefs at depths of less than 60 m; occurring on muddy bottoms in young

S 18 cm TL

(T. Uejo)



P. ocellatus, UPVMI 459, 96.2 mm SL

Family Chaetodontidae

Roa sp.

En —

- C** • 3rd or 4th spine longest in dorsal fin • 2nd spine longest in anal fin • 48–52 pored lateral-line scales • Pelvic fins yellowish black • 4 yellowish brown bands on head and body, 1st band on head through eye, last band at caudal-fin base • Soft-rayed portion of dorsal fin with black blotch margined white
- D** Japan and Philippines
- H** Shallower than about 160 m

S 8 cm TL

R Caught with bottom trawls. This species, closely related to *R. modestus* (Temminck & Schlegel 1844), is currently being studied taxonomically

(T. Uejo & H. Motomura)



Roa sp., UPVMI 617, 87.2 mm SL



G. lamarck, UPVMI 782, 111.8 mm SL

Family Pomacanthidae

Genicanthus lamarck

(Lacepède 1802)

En Lamarck's Angelfish

C • XIV–XV dorsal-fin spines • 4 longitudinal black stripes on body side in males; uppermost strip broadest in others • Upper and lower margins of caudal fin black in females and juveniles

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan, Australia, and Vanuatu)

H Coral reefs and drop-off area

S 25 cm TL

(K. Wibowo)



P. imperator, UPVMI 921, 277.3 mm SL

Family Pomacanthidae

Pomacanthus imperator

(Bloch 1787)

En Emperor Angelfish

C • XIII–XIV dorsal-fin spines • Many diagonal yellow and dark blue stripes on lateral surface of body

D Indo-Pacific (East Africa to Japan and Hawaiian and Pitcairn Is.)

H Rocky reefs

S 38 cm TL

(K. Wibowo)



H. typus, UPVMI 783, 208.1 mm SL

Family Pentacerotidae

Histiopertus typus

Temminck & Schlegel 1844

En Sailfin Armourhead

C • IV dorsal-fin spines • 3rd and 4th spine longest in dorsal fin • Head not covered with scales

D Indo-West Pacific (South Africa to Japan and Australia)

H Sandy bottoms and deep rocky reefs

S 35 cm TL

(K. Wibowo)

Family Cepolidae

Acanthocepola abbreviata
(Valenciennes 1835)**En** Yellowspotted Bandfish

C • 64–75 dorsal-fin rays
 • Preopercular margin with spines • 8–10 branched caudal-fin rays • Body with numerous broad orange spots and bands

D Indo-West Pacific (Gulf of Oman to Philippines)

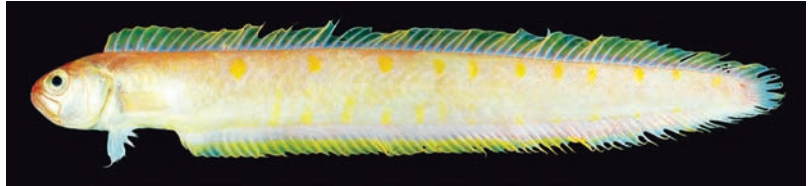
H Sandy and muddy bottoms

S 30 cm SL

(M. Matsunuma)



A. abbreviata, KAUM-I. 80761, 119.1 mm SL



A. abbreviata, UPVMI 608, 285.3 mm SL

Family Cepolidae

Acanthocepola indica
(Day 1888)**En** —

C • Body relatively deep
 • Preopercular margin with spines • Dark blotch on anterior portion of dorsal fin • Body with numerous narrow yellow bands

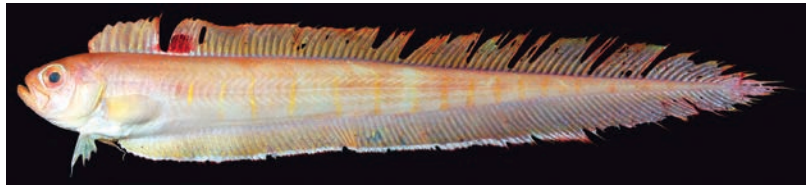
D Northern Indian and north-western Pacific oceans (Pakistan to Japan and Philippines)

H Sandy and muddy bottoms

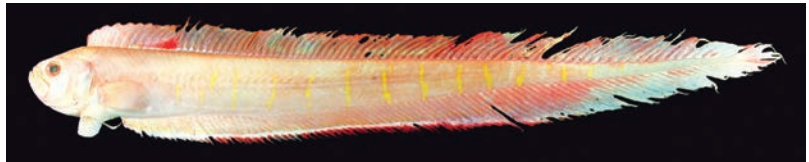
S 40 cm SL

R The present specimen represents the first specimen-based record of the species from the Philippines

(M. Matsunuma)



A. indica, KAUM-I. 51653, 319.5 mm SL



A. indica, UPVMI 607, 475.1 mm SL

Family Cepolidae

Acanthocepola sp.**En** —

C • 89 dorsal-fin rays • Preopercular margin with spines • All caudal-fin rays unbranched • Body with numerous narrow yellow bands

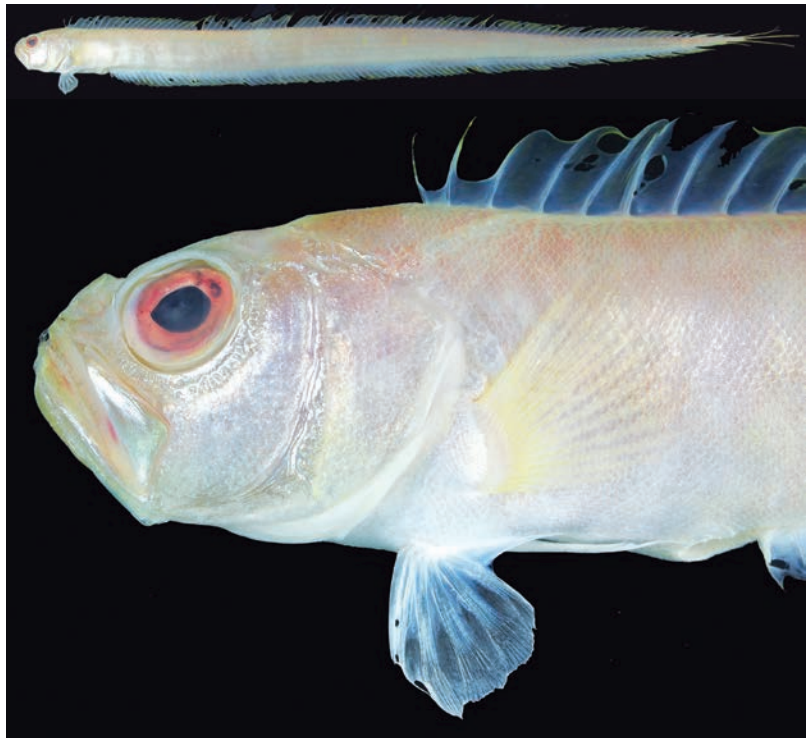
D Philippines

H Probably sandy and muddy bottoms

S 40 cm SL

R The present specimen is similar to *A. krusensternii* (Temminck & Schlegel 1845) but differs in having 89 dorsal-fin rays (vs. 78–82 in the latter)

(M. Matsunuma)



Acanthocepola sp., KAUM-I. 80822, 395.0 mm SL



C. schlegelii, UPVMI 780, 557.1 mm SL

Family **Cepolidae**
Cepola schlegelii
Bleeker 1854

En —

C • Body slender • Preopercular margin without spines • Membrane between upper jaw and snout black • Single silver streak behind pectoral fin

D Eastern Indian and western Pacific oceans (Indonesia to Japan)

H Sandy and muddy bottoms

S 56 cm SL

R The present specimen represents the first specimen-based record of the species from the Philippines
(M. Matsunuma)



A. vaigiensis, UPVMI 1665, 70.2 mm SL

Family **Pomacentridae**
Abudefduf vaigiensis
(Quoy & Gaimard 1825)

En Indo-Pacific Sergeant

C • 11–14 dorsal-fin soft rays • No scales on lacrimal • 5 vertical dark bars on lateral surface of body

D Indo-West Pacific (South Africa to Japan and New Zealand); Hawaiian Is. (introduction); Mediterranean Sea (Red Sea immigrant)

H Rocky and coral reefs

S 17 cm SL

(K. Wibowo)



A. clarkii, KAUM-I. 51667, 83.1 mm SL

Family **Pomacentridae**
Amphiprion clarkii
(Bennett 1830)

En Clark's Anemonefish

C • X–XI, 14–17 dorsal-fin rays • 3 white bars, including one bar on caudal peduncle

D Indo-West Pacific (Persian Gulf to Japan and Australia)

H Associated with anemones on coral reefs

S 10 cm SL

R Popular as an aquarium fish
(K. Wibowo)

*A. polymnus*, KAUM-I. 56029, 91.9 mm SL

Family Pomacentridae

Amphiprion polymnus

(Linnaeus 1758)

En Saddleback Anemofish

C • X–XI dorsal-fin spines •
 II–III anal-fin spines • Large
 white mark on dorso-posterior
 part of body, extending onto
 dorsal fin

D Western Pacific (Japan to
 Australia)

H Associated with anemones
 on sandy bottoms adjacent to
 coral reefs

S 10 cm SL

R Sometime sold as an aquar-
 ium fish

(K. Wibowo)

*A. polymnus*, UPVMI 853, 83.6 mm SL

Family Pomacentridae

Chromis mirationis

Tanaka 1917

En Japanese Chromis

C • XIV dorsal-fin spines •
 Posterior nostril large slit •
 Single longitudinal dark band
 on middle of body

D Western Pacific (Japan to
 Australia)

H Rocky reefs at depths of
 40–90 m

S 11 cm SL

R Reef associated and non-
 migratory

(K. Wibowo)

*C. mirationis*, KAUM-I. 51658, 115.5 mm SL



P. adelus, KAUM-I. 62912, 29.5 mm SL

Family Pomacentridae

Pomacentrus adelus

Allen 1991

En Obscure Damselfish

- C** • XIII dorsal-fin spines • 22–24 total gill rakers on first arch • Black blotch margined with blue on posterior dorsal fin in juveniles
- D** Eastern Indian and Western Pacific oceans (Andaman Sea to New Caledonia)
- H** Coral reefs and lagoons in coastal waters
- S** 9 cm TL
- R** Solitary or in small groups (K. Wibowo)



P. cuneatus, KAUM-I. 56035, 50.1 mm SL

Family Pomacentridae

Pomacentrus cuneatus

Allen 1991

En Wedgespot Damselfish

- C** • 14–15 dorsal-fin soft rays • Blue tips on dorsal-fin spines • Wedge-shaped dark mark at upper pectoral-fin base
- D** Western Pacific (Southeast Asian countries)
- H** Reefs in coastal waters
- S** 9 cm TL
- R** Solitary or in small groups (K. Wibowo)



P. obtusirostris, KAUM-I. 52603, 94.2 mm SL

Family Pomacentridae

Pristotis obtusirostris

(Günther 1862)

En Gulf Damselfish

- C** • 13 dorsal-fin spines • Caudal fin forked • Blue spot on each body scale
- D** Indo-West Pacific (Red Sea to Japan and New Caledonia)
- H** Flat sandy and rubble bottoms around coral and rocky reefs; often entering to estuaries in juveniles
- S** 14 cm TL

(K. Wibowo)

*P. quadrilineatus*, UPVMI 850, 130.9 mm SL*P. quadrilineatus*, UPVMI 826, 71.5 mm SL

Family Terapontidae

Pelates quadrilineatus

(Bloch 1790)

En Fourlined Terapon

C • Posttemporal bone not exposed, covered with skin and scales • 66–75 pored lateral-line scales • 23–28 gill rakers on lower limb of first gill arch • 4–6 dark narrow horizontal stripes on sides

D Indo-West Pacific (East Africa to Japan, Australia, and Vanuatu); Mediterranean Sea (Red Sea immigrant)

H Coastal and brackish waters

S 30 cm SL

*P. quadrilineatus*, KAUM-I. 80612, 79.5 mm SL

(M. Nakae)



T. jarbua, UPVMI 189, 141.2 mm SL

Family Terapontidae

Terapon jarbua

(Forsskål 1775)

En Jarbua Terapon

C • Posttemporal bone exposed posteriorly
• 3–5 broad black bands on caudal fin •
75–100 pored lateral-line scales • Curved
black stripes on sides

D Indo-West Pacific (East Africa to Japan,
Australia, and Samoa); Mediterranean Sea
(Red Sea immigrant)

H Coastal and brackish waters

S 35 cm SL

R Sometimes feeds on scales of fishes
(M. Nakae)



T. theraps, NSMT-P 115558, 106.3 mm SL

Family Terapontidae

Terapon theraps

Cuvier 1829

En Largescaled Terapon

C • Posttemporal bone exposed posteriorly
• 3–5 broad black bands on caudal fin •
46–56 pored lateral-line scales • Linear
black stripes on sides

D Indo-West Pacific (East Africa to
Japan, Australia, and New Caledonia);
Mediterranean Sea (Red Sea immigrant)

H Coastal and brackish waters

S 32 cm SL

(M. Nakae)



K. cinerascens, UPVMI 1713, 140.4 mm SL

Family Kyphosidae

Kyphosus cinerascens

(Forsskål 1775)

En Blue Sea Chub

C • 11–13 (usually 12) dorsal-fin soft
rays • 10–11 (usually 11) anal-fin soft
rays • 26–31 gill rakers on first gill arch •
Anterior dorsal-fin soft rays clearly longer
than longest dorsal-fin spine

D Indo-Pacific (Red Sea to Hawaiian and
Easter Is.)

H Shallow rocky reefs

S 50 cm SL

(M. Nakae)



K. cinerascens, UPVMI 912, 157.3 mm SL

Family Kyphosidae

Kyphosus vaigiensis

(Quoy & Gaimard 1825)

En Brassy Chub

C • 13–15 (usually 14) dorsal-fin soft rays • 12–13 (usually 13) anal-fin soft rays • 29–34 gill rakers on first gill arch

D Indo-Pacific (Red Sea to Hawaiian Is. and French Polynesia)

H Shallow rocky reefs; juveniles often found with floating seaweed

S 70 cm SL

(M. Nakae)

*K. vaigiensis*, UPVMI 1712, 112.5 mm SL

Family Nomeidae

Cubiceps pauciradiatus

Günther 1872

En Bigeye Cigarfish

C • 15–17 dorsal-fin soft rays • 14–17 anal-fin soft rays • Patches of knobby teeth present on vomer and tongue • Scales covering on cheek nearly reaching tip of snout

D Circumglobal in tropical and temperate seas

H Bathypelagic

S 20 cm SL

(M. Okamoto)

*C. pauciradiatus*, KAUM-I. 80864, 97.3 mm SL*C. pauciradiatus*, UPVMI 574, 99.4 mm SL*C. pauciradiatus*, KAUM-I. 57185, 94.7 mm SL



C. whiteleggii, KAUM-I. 80883, 142.5 mm SL



C. whiteleggii, KAUM-I. 57184, 72.9 mm SL

Family Nomeidae
Cubiceps whiteleggii
(Waite 1894)

En Shadow Driftfish

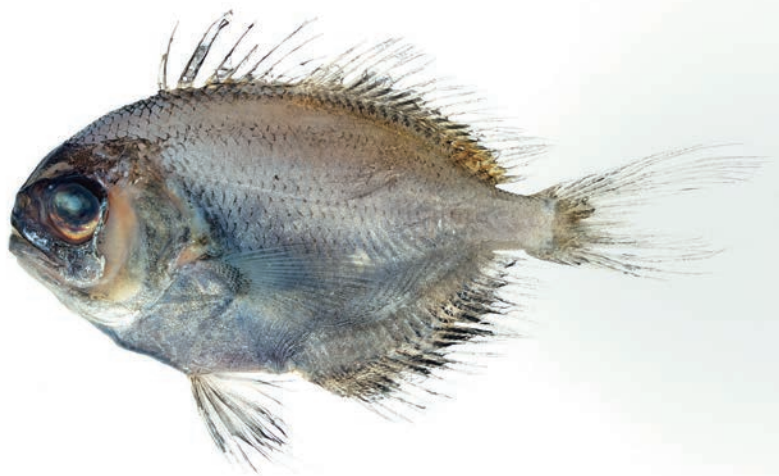
C • Body relatively deep •
• 18–21 dorsal-fin soft rays •
• 18–21 anal-fin soft rays • A
few pointed teeth present on
anterior part of vomer and
tongue • Scales covering on
cheek nearly reaching anterior
margin of eye

D Indo-West Pacific (east
coast of Africa to Japan and
Australia)

H Bathypelagic

S 21 cm SL

(M. Okamoto)



P. arafurensis, UPVMI 273, 83.9 mm SL

Family Nomeidae
Psenes arafurensis
Günther 1889

En Dusky Driftfish

C • Body relatively deep
• Snout round and short •
• 19–21 dorsal-fin soft rays •
• 20–21 anal-fin soft rays

D Circumglobal in tropical
and subtropical seas

H Bathypelagic

S 15 cm SL

R Often seen in coastal waters,
swimming with jellyfishes or
under floating weeds

(M. Okamoto)

Family Nomeidae

Psenes cyanophrys

Valenciennes 1833

En Freckled Driftfish

C • Body relatively deep • Snout round • 23–28 dorsal-fin soft rays • 24–28 anal-fin soft rays

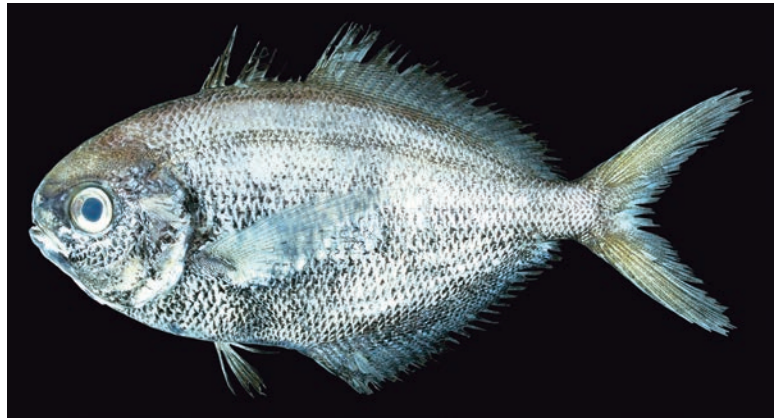
D Circumglobal in tropical and subtropical seas

H Bathypelagic

S 20 cm SL

R Juveniles and young swimming with jellyfishes or under floating weeds

(M. Okamoto)

*P. cyanophrys*, UPVMI 611, 147.9 mm SL

Family Ariommatidae

Ariomma brevimanum

(Klunzinger 1884)

En Driftfish

C • Body elongate and compressed • Eye small, its diameter about one-fourth of HL • II, 13–15 anal-fin rays

D Pacific Ocean (Japan and Hawaiian Is. to Indonesia); Red Sea

H Mesopelagic

S 73 cm SL

R Rare around Panay I., but regularly landed at markets around Davao Gulf

(M. Okamoto)

*P. cyanophrys*, KAUM-I. 80709, 177.2 mm SL

Family Ariommatidae

Ariomma indicum

(Day 1871)

En Indian Driftfish

C • Body oval and strongly compressed • Eye large, its diameter about one-third of HL • III, 14–15 anal-fin rays • Irregular dark blotches on body in young and juveniles

D Indo-West Pacific (East Africa to Japan and Australia)

H Continental shelves and continental slopes at depths of 20–300 m

S 25 cm SL

(M. Okamoto)

*A. brevimanum*, UPVMI 554, 396.6 mm SL*A. indicum*, KAUM-I. 62943, 154.5 mm SL



E. tetradactylum, KAUM-I. 57204, 73.3 mm SL

Family Polynemidae

Eleutheronema tetradactylum

(Shaw 1804)

En Fourfinger Threadfin

C • 4 pectoral filaments • Vomer with deciduous tooth plates on both sides, except in juveniles • Anterior parts of lower jaw with small teeth extending onto lateral surface, adjacent portion of lip absent • Pectoral fins yellow, except in large adults

D Indo-West Pacific (Persian Gulf to Philippines and Australia)

H Continental shelves on muddy and sandy substrata, and frequently entering brackish waters, especially as juveniles

S 2 m TL

R This species is not known from East Asia where it is replaced by the endemic *E. rhadinum* (Jordan & Evermann 1902). Australian population of *E. tetradactylum* probably represents a distinct species

(H. Motomura)



E. tetradactylum, UPVMI 305, 311.9 mm SL

Family Polynemidae

Filimanus sealei

(Jordan & Richardson 1910)

En Eightfinger Threadfin

C • 8 (rarely 7) pectoral filaments • Posterior tip of pectoral filaments not extending beyond vertical through midpoint of anal-fin base • 40–48 gill rakers • Pectoral fins yellow to black

D Western Pacific (Philippines to eastern Indonesia and Solomon Is.)

H Muddy and sandy bottoms in shallow coastal waters at depths of less than 80 m

S 15 cm SL

(H. Motomura)



F. sealei, KAUM-I. 80818, 99.0 mm SL

Family Polynemidae

Polydactylus microstomus

(Bleeker 1851)

En Smallmouth Threadfin

C • 5 pectoral filaments • All pectoral-fin rays branched, except uppermost 1 or 2 rays • Vomer without teeth • Large black blotch anteriorly on lateral line

D Indo-West Pacific (east coast of India to Taiwan and New Caledonia), except for Australia

H Muddy and sandy bottoms in coastal waters, estuaries, mangrove creeks, and mangrove-lined rivers at usually less than 2 m depth

S 16 cm SL

(H. Motomura)



P. microstomus, KAUM-I. 56082, 148.8 mm SL

Family Polynemidae

Polydactylus plebeius

(Broussonet 1782)

En Striped Threadfin

C • 5 pectoral filaments • Posterior margin of maxilla reaching to or extending only slightly beyond vertical through posterior margin of adipose eyelid • Lateral line unbranched on caudal-fin base, extending to posterior margins of lower caudal-fin lobe • 60–68 pored lateral-line scales • Several longitudinal black stripes on lateral surface of body • No black blotch anteriorly on lateral line

D Indo-Pacific (east coast of Africa to Japan and French Polynesia), except for Red Sea, Persian Gulf, and Hawaiian Is.

H Along shallow, sandy or muddy coastal beaches and estuaries to relatively deep waters (less than 122 m)

S 45 cm SL

(H. Motomura)

*P. plebeius*, UPVMI 306, 340.7 mm SL*B. loxozonus*, UPVMI 830, 274.3 mm SL

Family Labridae

Bodianus loxozonus

(Snyder 1908)

En Blackfin Hogfish

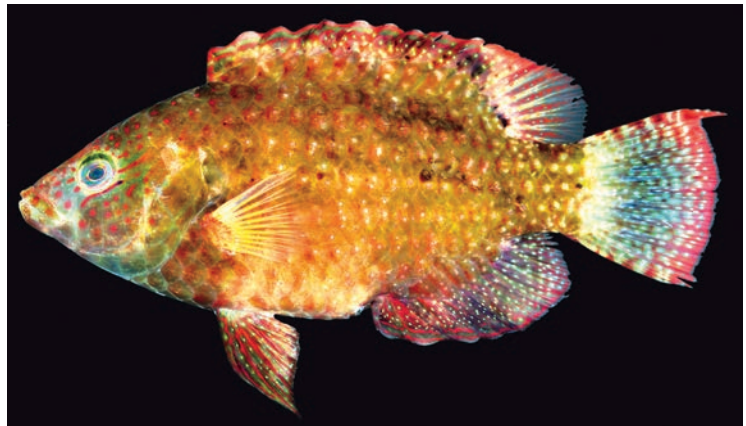
C • XII, 10–11 dorsal-fin rays • Body relatively deep • Broad black band from posterior base of dorsal fin to lower caudal-fin lobe • Pelvic fins black

D Pacific Ocean (Japan to Australia and French Polynesia)

H Coral and rocky reefs at depths of less than 100 m

S 40 cm SL

(Y. Fukui)

*C. chlorourus*, UPVMI 1510, 128.6 mm SL

Family Labridae

Cheilinus chlorourus

(Bloch 1791)

En Floral Wrasse

C • X, 8–9 dorsal-fin rays • Body relatively deep • Lateral line continuous • Caudal fin truncate, upper and lower lobes elongate in adults • White spots scattered on body and fins

D Indo-West Pacific (East Africa to Japan and French Polynesia)

H Coral and rocky reefs at depths of less than 30 m

S 35 cm SL

(Y. Fukui)

*C. chlorourus*, KAUM-I. 51675, 155.8 mm SL



C. anchorago, UPVMI 1640, 155.8 mm SL

Family Labridae

Choerodon anchorago

(Bloch 1791)

En Orangedotted Tuskfish

C • XII–XIII, 7 dorsal-fin rays

• Lateral line continuous • Wedge-shaped white or yellow band on middle of body • White rectangular blotch on upper caudal peduncle

D Eastern Indian and western Pacific oceans (Indonesia to Japan, Australia, and New Caledonia)

H Shallow coral and outer reefs

S 38 cm SL

(Y. Fukui)



C. margaritifera, KAUM-I. 80874, 140.0 mm SL

Family Labridae

Choerodon margaritifera

Fowler & Bean 1928

En Pearly Tuskfish

C • III, 9–10 anal-fin rays • 15

pectoral-fin rays • White stripe from tip of snout to below eye • Pale spots scattered on midlateral body

D Western Pacific (Japan, Taiwan, and Philippines)

H Rubble areas

S 15 cm SL

(Y. Fukui)



C. oligacanthus, KAUM-I. 80816, 120.0 mm SL

Family Labridae

Choerodon oligacanthus

Bleeker 1851

En Singapore Tuskfish

C • 10–11 anal-fin soft rays •

Body relatively deep • Lateral line continuous • White square blotch on dorsal portion of middle of trunk when fresh

D Western Pacific (Malaysia, Indonesia and Philippines to New Caledonia)

H Coastal waters

S 30 cm SL

(Y. Fukui)



C. oligacanthus, KAUM-I. 80849, 189.9 mm SL

*C. schoenleinii*, UPVMI 1216, 218.7 mm SL

Family Labridae

Choerodon schoenleinii

(Valenciennes 1839)

En Blackspot Tuskfish

C • XII–XIII, 7 dorsal-fin rays • Body relatively deep • Black blotch at posterior base of spinous portion of dorsal fin

D Western Pacific (Japan to Australia)

H Sandy and rocky bottoms

S 1 m TL

(Y. Fukui)

*H. hartzfeldii*, KAUM-I. 80683, 156.2 mm SL

Family Labridae

Halichoeres hartzfeldii

(Bleeker 1852)

En Goldstripe Wrasse

C • 11 anal-fin soft rays • 13 pectoral-fin rays • Orange or yellow broad midlateral stripe on body

D Western Pacific (Japan to Samoa and Australia)

H Sand-rubble areas at depths of less than 85 m

S 20 cm SL

(Y. Fukui)

*H. hartzfeldii*, UPVMI 851, 166.2 mm SL*H. hartzfeldii*, KAUM-I. 52632, 159.2 mm SL



I. dea, KAUM-I. 52624, 140.0 mm SL

Family Labridae

Iniistius dea

(Temminck & Schlegel 1845)

En Blackspot Razorfish

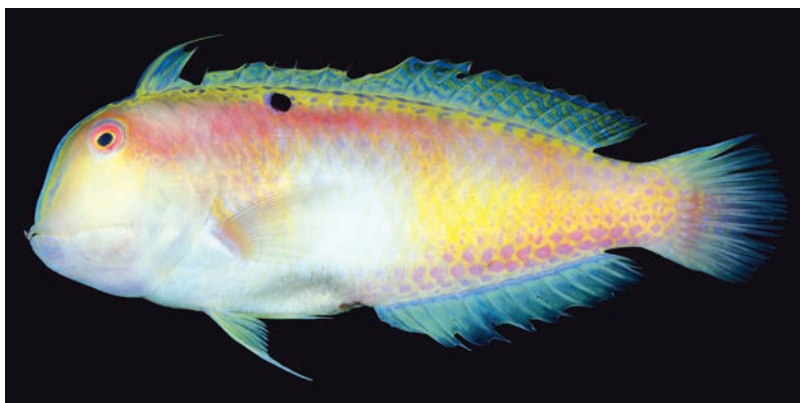
C • IX, 11–13 dorsal-fin rays • 1st and 2nd dorsal-fin spines elongate • Furrow on head from posterior margin of upper jaw to posterior part of opercle • Distinct black blotch at dorsal portion of body

D Western Pacific (Japan and Taiwan to Philippines and Indonesia)

H Sand-rubble area

S 25 cm SL

(Y. Fukui)



I. dea, KAUM-I. 56006, 175.3 mm SL

Family Labridae

Iniistius sp.

En —

C • IX, 12 dorsal-fin rays • 1st and 2nd dorsal-fin spines elongate • Distinct black blotch at posterior end of soft-rayed portion of dorsal fin

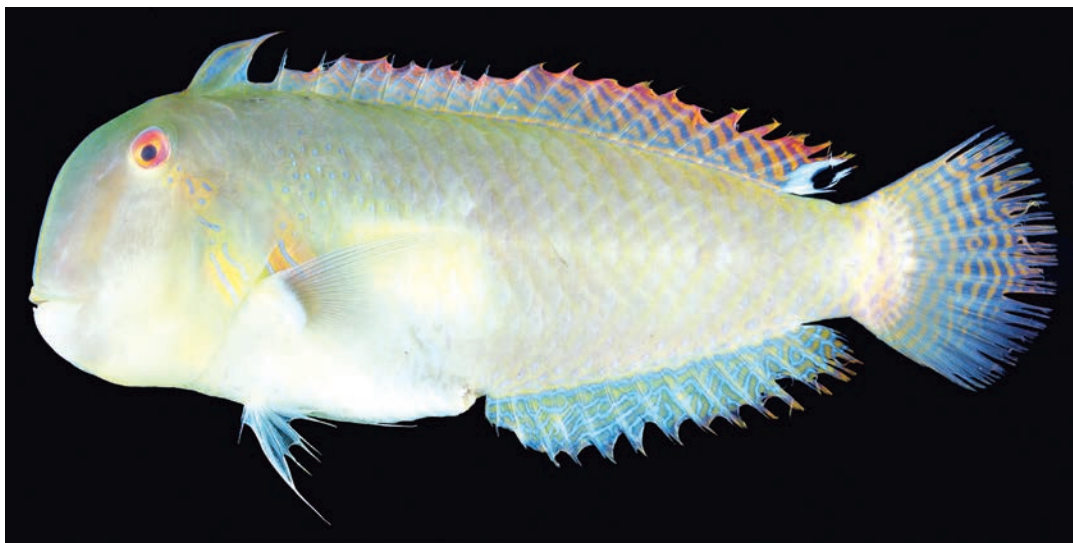
D Western Pacific (Philippines to Australia)

H Probably sandy bottoms

S 17 cm SL

R This species is currently being studied taxonomically

(Y. Fukui)



Iniistius sp., KAUM-I. 80684, 168.7 mm SL

Family Labridae

Leptojulis lambdastigma

Randall & Ferraris 1981

En Trawl V-wrasse

C • 12 dorsal- and anal-fin soft rays • 13 pectoral-fin rays • 27 pored lateral-line scales • Large V-shaped black mark medially on nape

D Western Pacific (Taiwan to Malaysia and Philippines)

H Sandy bottoms of coastal waters

S 14 cm SL

(Y. Fukui)

*L. lambdastigma*, KAUM-I. 52628, 133.3 mm SL

Family Labridae

Novaculops sp.

En —

C • 13 pectoral-fin rays • 20 + 5 pored lateral-line scales • Dorsal-fin spines short • Membrane between 1st and 3rd dorsal-fin spines black • Pelvic fins short • Upper margin of orbit edged black

D Philippines

H Probably sandy bottoms

S 11 cm SL

R This species is currently being studied taxonomically

(Y. Fukui)

*Novaculops* sp., KAUM-I. 52621, 108.5 mm SL

Family Labridae

Oxycheilinus samurai

Fukui, Muto & Motomura 2016

En Black-tip Maori-wrasse

C • 12 pectoral-fin rays • 11–12 gill rakers • Blackish blotch below anterior portion of lateral line • Dark-green blotch on basal membrane between 1st and 2nd dorsal-fin spines • Posterior margin of caudal fin white

D Western Pacific (Japan to Philippines and Indonesia)

H Shallow coastal waters at depths of 10–38 m

S 10 cm SL

(Y. Fukui)

*O. samurai*, KAUM-I. 51661, 99.1 mm SL

Family Labridae

Xiphocheilus typus

Bleeker 1856

En Bluebanded Wrasse

C • XII, 7–8 dorsal-fin rays • Narrow yellow or blue line from end of upper jaw to upper margin of opercle

D Indo-West Pacific (India to Taiwan and Australia)

H Coral reefs and sand-rubble areas

S 15 cm SL

(Y. Fukui)

*X. typus*, UPVMI 1272, 113.1 mm SL



C. ocellatus, male, UPVMI 832, 321.4 mm SL



C. ocellatus, female, UPVMI 831, 300.2 mm SL



C. bleekeri, male, UPVMI 498, 293.7 mm SL



C. japonensis, male, UPVMI 502, 197.2 mm SL

Family Scaridae

Cetoscarus ocellatus

(Valenciennes 1840)

Spotted Parrotfish

- 5–7 pre-dorsal-fin scale rows • 3 scale rows on cheek
- 14 pectoral-fin rays • Dental plates mostly covered with lips • A broad pink or yellow band from mouth to abdomen in males • Body white dorsally in females

Indo-Pacific (East Africa to Japan and Society Is.), except for Red Sea

Coral reefs

80 cm SL

(A. Bandai)

Family Scaridae

Chlorurus bleekeri

(de Beaufort 1940)

Bleeker's Parrotfish

- 4 pre-dorsal-fin scale rows • 3 scale rows on cheek
- 15 pectoral-fin rays • Lips not covering dental plates • White blotch with green margin on cheek area in males
- 3–4 pale bars on body in females

Western Pacific (Japan to Australia and Samoa)

Coral reefs

27 cm SL

(A. Bandai)

Family Scaridae

Chlorurus japonensis

(Bloch 1789)

Palecheek Parrotfish

- 4 pre-dorsal-fin scale rows • 2 scale rows on cheek
- 15 pectoral-fin rays • Lips slightly covering dental plates • Blackish-purple band from forehead to abdomen in males
- Ventral part of body without longitudinal stripe in males • Caudal fin red-orange in females

Indo-West Pacific (East Africa to Japan and Samoa)

Coral reefs

22 cm SL

(A. Bandai)

Family Scaridae

Scarus dimidiatus

Bleeker 1859

En Yellowbarred Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek
 • 14 pectoral-fin rays • Lips mostly covering dental plates
 • Posterior half of body dark in males • Body yellow, with 3 dark bands on dorsum in females

D Eastern Indian and western Pacific oceans (Andaman Sea to Japan and Samoa)

H Coral reefs**S** 30 cm SL

(A. Bandai)

*S. dimidiatus*, male, UPVMI 1639, 184.2 mm SL*S. dimidiatus*, female, UPVMI 1637, 162.3 mm SL

Family Scaridae

Scarus ghobban

Forsskål 1775

En Yellowscale Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek
 • 15 pectoral-fin rays • Lips mostly covering dental plates
 • Body blue, with pink dorsal fin margined with blue in males
 • Body yellowish, with 4–5 dark saddles on side in females

D Indo-Pacific (East Africa to French Polynesia), except for Hawaiian and Easter Is.; Mediterranean Sea (Red Sea immigrant)

H Coral reefs**S** 25 cm SL

(A. Bandai)

*S. ghobban*, male, UPVMI 1244, 426.4 mm SL*S. ghobban*, female, KAUM-I. 91871, 204.4 mm SL



S. niger, male, UPVMI 500, 255.9 mm SL

Family Scaridae

Scarus niger

Forsskål 1775

En Dusky Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek • 14 pectoral-fin rays • Lips mostly covering dental plates • Body dark green with red upper lip in males • Body red with many white stripes on side in females

D Indo-Pacific (East Africa to Japan and Tuamotu Is.)

H Coral reefs

S 35 cm SL

(A. Bandai)



S. quoyi, male, UPVMI 1638, 226.6 mm SL

Family Scaridae

Scarus quoyi

Valenciennes 1840

En Quoy's Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek • 14 pectoral-fin rays • Lips mostly covering dental plates • Green area from upper lip to below eye in males • Dark vertical band on caudal fin in females

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan and Vanuatu)

H Coral reefs

S 25 cm SL

(A. Bandai)



S. rivulatus, male, UPVMI 499, 248.2 mm SL

Family Scaridae

Scarus rivulatus

Valenciennes 1840

En Scribblefaced Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek • 14 pectoral-fin rays • Lips mostly covering dental plates • Orange wavy lines on snout to cheek in males • Pectoral fins light green in males • Body gray in females

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan, Australia, and New Caledonia)

H Coral reefs

S 40 cm SL

(A. Bandai)



S. rubroviolaceus, female, KAUM-I. 80722, 281.8 mm SL

Family Scaridae

Scarus rubroviolaceus

Bleeker 1849

En Ember Parrotfish

C • 6 pre-dorsal-fin scale rows • 3 scale rows on cheek • Lips covering half of dental plates • Head dark green in males • 1–2 canine-like tooth on upper dental plate in females • Body reddish brown with small spots in females

D Indo-Pacific (East Africa to Japan and Tuamotu Is.)

H Coral reefs

S 50 cm SL

(A. Bandai)

Family Pinguipedidae

Parapercis alboguttata

(Günther 1872)

En Bluenose Sandperch

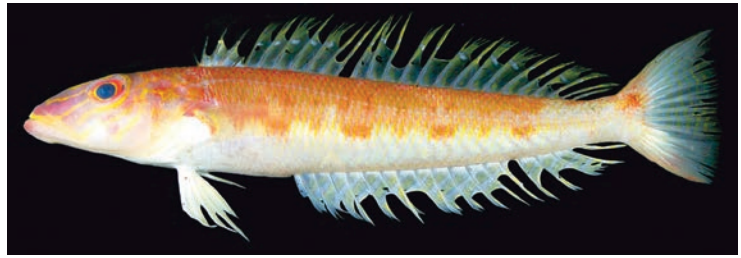
C • 2 longitudinal rows of poorly defined reddish orange blotches on lateral surface of body • Head purplish with oblique yellow lines

D Indo-West Pacific (Arabian Gulf to Philippines and Australia)

H Sandy and muddy bottoms at depths of 50–120 m

S 27 cm TL

(H. Motomura)

*P. alboguttata*, KAUM-I. 51652, 193.4 mm SL

Family Pinguipedidae

Parapercis bicoloripes

Prokofiev 2010

En —

C • About 7 indistinct Y- or V-shaped reddish brown markings on lateral surface of body • Lower half of anal fin reddish

D Western Pacific (Vietnam and Philippines to Thailand and Malaysia)

H Sandy and muddy bottoms at depths of less than 100 m

S 16 cm SL

(H. Motomura)

*P. alboguttata*, UPVMI 997, 216.9 mm SL

Family Pinguipedidae

Parapercis diplospilus

Gomon 1981

En Doublespot Grubfish

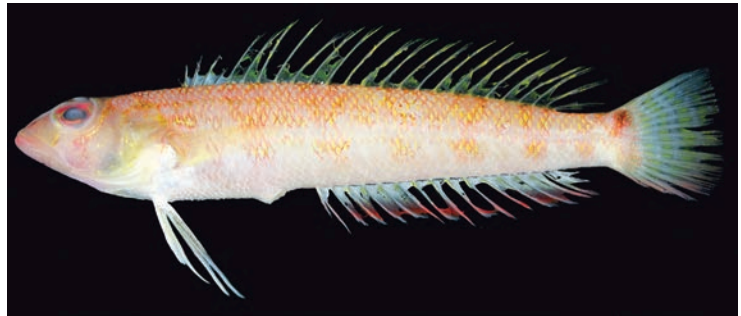
C • 2 dark spots at caudal-fin base • About 6 large brown blotches on lower half of body • 2 brown blotches below eye

D Eastern Indian and western Pacific oceans (Western Australia; Vietnam and Philippines to Papua New Guinea)

H Sandy and muddy bottoms at depths of less than 50 m

S 8 cm SL

(H. Motomura)

*P. bicoloripes*, KAUM-I. 69435, 68.1 mm SL

Family Pinguipedidae

Parapercis muronis

(Tanaka 1918)

En Doublespot Grubfish

C • Body reddish yellow, with 5 slightly oblique black bars on upper half of body • No black spot on spinous portion of dorsal fin

D Western Pacific (Japan to Philippines)

H Sandy and muddy bottoms

S 13 cm SL

(H. Motomura)

*P. muronis*, KAUM-I. 56085, 89.1 mm SL



Parapercis sp. 1, KAUM-I. 52614, 117.9 mm SL

Family Pinguipedidae

Parapercis sp. 1

En —

- C** • 2 longitudinal rows of black blotches on 2 yellow stripes on body • Yellow spots on median fins • Narrow black band along pectoral-fin base

D Philippines

H Probably sandy bottoms

S 12 cm SL

R The specimen is currently being studied taxonomically

(H. Motomura)



Parapercis sp. 2, KAUM-I. 52626, 114.4 mm SL

Family Pinguipedidae

Parapercis sp. 2

En —

- C** • Longitudinal row of red blotches margined with yellow on body • Row of red spots on dorsal fin

D Philippines

H Probably sandy bottoms

S 11 cm SL

R The specimen is currently being studied taxonomically

(H. Motomura)



R. gushikeni, KAUM-I. 56002, 206.5 mm SL

Family Pinguipedidae

Ryukyuperis gushikeni

(Yoshino 1975)

En Rosy Grubfish

- C** • VI, 20 dorsal-fin rays • Dorsal-fin soft rays elongated

D Western Pacific (Japan to Australia)

H Sandy and muddy bottoms

S 30 cm SL

(H. Motomura)



R. gushikeni, KAUM-I. 56016, 178.8 mm SL

Family Trichonotidae

Trichonotus setiger

Bloch & Schneider 1801

En Spotted Sanddiver

- C** • 4–7 dorsal-fin spines, anterior 3–4 spines elongate and filamentous in males • Black blotch on membranes in anterior dorsal fin in females; blotch absent in males

D Western Pacific (Japan to Australia)

H Coastal waters on sandy bottoms at depths of less than 50 m

S 17 cm SL

R The present female specimen represents the first specimen-based record of the species from the Philippines

(E. Katayama)



T. setiger, KAUM-I. 69405, 66.6 mm SL



Family Champsodontidae

Champsodon atridorsalis

Ochiai & Nakamura 1964

En —

C • Tip of first dorsal fin prominently black • Chin and breast heavily scaled • Broad naked area above pelvic fin

D Eastern Indian and western Pacific oceans (Vietnam and Philippines to Australia)

H Depths of less than 326 m

S 12 cm SL

(N. Nakayama)

*C. atridorsalis*, KAUM-I. 91869, 136.7 mm SL

Family Champsodontidae

Champsodon cf. vorax

Günther 1867

En —

C • First dorsal fin pale • Chin naked • Breast heavily scaled • Prominent scaly area between pectoral- and pelvic-fin bases

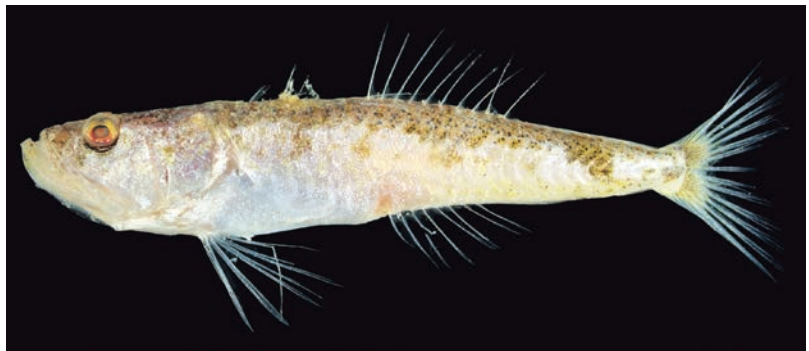
D Philippines

H Unknown

S 5 cm SL

R Differs from *C. vorax* Günther 1867 in lacking a scaly patch on the chin (vs. present); the precise identification of the specimen is currently pending

(N. Nakayama)

*C. cf. vorax*, UPVMI 1632, 44.6 mm SL

Family Champsodontidae

Champsodon nudivittus

(Ogilby 1895)

En —

C • First dorsal fin pale • Chin naked • Small scaly patch on breast • Broad naked area above pelvic fin

D Indo-West Pacific (Madagascar to Philippines and Australia) and Mediterranean Sea

H Depths of less than 335 m

S 11 cm SL

(N. Nakayama)

*C. nudivittus*, KAUM-I. 63036, 78.4 mm SL

Family Uranoscopidae

Uranoscopus affinis

Cuvier 1829

En One-spined Yellowtail Stargazer

C ● 4–5 dorsal-fin spines
 ● 13–14 dorsal-fin soft rays
 ● Nape with scales ● Body yellowish brown, no broad color bands

D Indo-West Pacific (Red Sea to Japan and northern Australia)

H Sandy bottoms in shallow to deep waters

S 25 cm SL

R Common around Panay I. (V. Vilasri)

*U. affinis*, UPVMI 474, 193.4 mm SL

Family Uranoscopidae

Uranoscopus bicinctus

Temminck & Schlegel 1843

En Marbled Stargazer

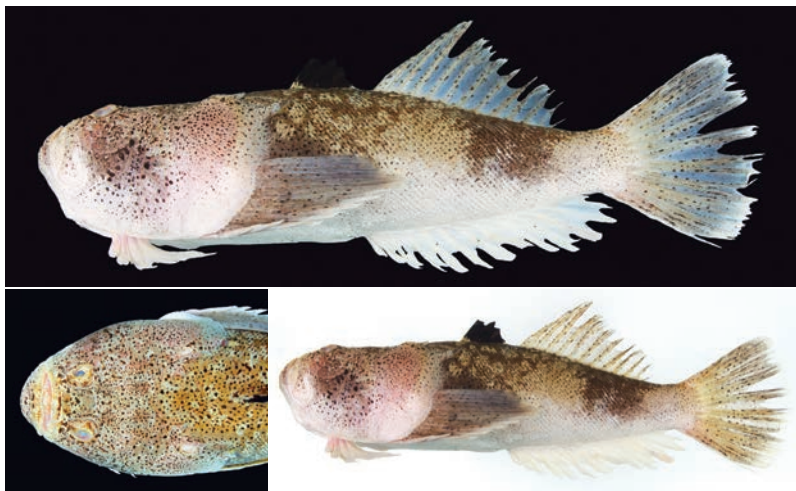
C ● 4–5 dorsal-fin spines
 ● 12–14 dorsal-fin soft rays
 ● Nape naked ● Body dark brown with three broad black bands

D Western Pacific (Japan to northern Australia)

H Sandy bottoms in shallow waters

S 28 cm SL

R Common around Panay I. (V. Vilasri)

*U. bicinctus*, UPVMI 916, 188.3 mm SL

Family Blenniidae

Xiphasia setifer

Swaision 1839

En Hairtail Snakeblenny

C ● XIII–XIV, 105–119 dorsal-fin rays ● Body extremely elongate, ribbon-like ● Body light brown with 24–28 broad brown bars, extending onto dorsal fin

D Indo-West Pacific (Red Sea to Japan)

H Soft bottoms

S 55 cm SL

(K. Kawama)

*X. setifer*, KAUM-I. 52635, 392.4 mm SL

*C. guentheri*, male, KAUM-I. 80804, 95.4 mm SL

Family Callionymidae

Callionymus guentheri

Fricke 1981

En Günther's Deepwater Dragonet

- C** • Preopercular spine with a long, slightly upcurved 3 spines on its dorsal margin
- Head more than 3.2 in SL
- 1st dorsal fin with a black blotch on 3rd membrane

D Philippines**H** Benthic; 100–593 m depth**S** 13 cm SL

(E. Katayama)

*C. guentheri*, male, KAUM-I. 80785, 69.5 mm SL

Family Callionymidae

Callionymus japonicus

Houttuyn 1782

En Japanese Longtail Dragonet

- C** • Body elongate, very depressed
- Head broad and depressed
- Preopercular spine long with 5–18 small spines on its dorsal margin, a straight main tip

D Western Pacific (Japan to Australia)**H** Benthic; sandy and muddy bottoms**S** 22 cm SL

(E. Katayama)

*C. guentheri*, male, UPVMI 274, 108.8 mm SL*C. japonicus*, male, UPVMI 1673, 163.3 mm SL



C. meridionalis, male, KAUM-I. 91802, 85.9 mm SL



C. meridionalis, female, KAUM-I. 91801, 75.3 mm SL



C. platycephalus, female, KAUM-I. 56093, 95.7 mm SL



C. platycephalus, male, KAUM-I. 80687, 66.4 mm SL



C. platycephalus, male, KAUM-I. 57175, 61.9 mm SL

Family Callionymidae

Callionymus meridionalis

Suardji 1965

 Hightfin Dragonet

C • 1st dorsal-fin spine elongate in both sexes, filamentous in males • Preopercular spine with 2 large spines at dorsal margin

D Western Pacific (Taiwan to Australia)

H Benthic; recorded from ca. 80 m depth

S 13 cm SL

R The generic assignment follows Fricke (1983, 2002)

(E. Katayama)

Family Callionymidae

Callionymus platycephalus

Fricke 1983

 Flathead Dragonet

C • 1st dorsal-fin high with narrow base • Preopercular spine straight, with 7–8 small spines on its dorsal margin

D Philippines

H Benthic; recorded from ca. 48 m depth

S 8 cm SL

R Known only from the Philippines

(E. Katayama)

Family Callionymidae

Callionymus schaapi

Bleeker 1852

En Schaap's Dragonet

C • Anterior 3 dorsal-fin spines elongate and filiform in males; not in females • Head depressed • A large spot at base of pectoral fin

D Andaman Sea and western Pacific

H Benthic; shallow coastal and brackish waters

S 7 cm SL

R The generic assignment follows Fricke (1983, 2002). The present specimen from Panay I. has numerous spots on the 2nd dorsal fin

(E. Katayama)

*C. schaapi*, male, KAUM-I. 91775, 42.7 mm SL

Family Callionymidae

Dactylopus dactylopus

(Valenciennes 1837)

En Fingered Dragonet

C • Body subcylindrical • Head depressed • Dorsal-fin spines filamentous in males • 1st pelvic-fin spine and ray free from other rays, its first ray elongate

D Eastern and western Pacific oceans (Andaman Sea to Japan and Australia)

H Sandy and muddy bottoms in shallow coastal waters at depths of about 10–55 m

S 10 cm SL

R Common in the Philippines (E. Katayama)

*D. dactylopus*, male, KAUM-I. 63073, 74.1 mm SL

Family Butidae

Butis humeralis

(Valenciennes 1837)

En Flathead Gudgeon

C • A pair of supraorbital bony ridges with spiny serrations • Snout long and flattened • Caudal peduncle relatively deep, its length 1.7–1.9 times its depth

D Indo-West Pacific

H Estuaries and adjacent coastal waters with mud bottoms

S 11 cm SL

(K. Shibukawa)

*B. humeralis*, KAUM-I. 57178, 70.4 mm SL



B. koilomatodon, KAUM-I. 56046, 43.3 mm SL

Family Butidae

Butis koilomatodon

(Bleeker 1849)

En Mud Sleeper

C • A pair of supraorbital bony ridges with spiny serrations • Snout subequal to eye in length, non-flattened • Body relatively short and deep

D Indo-West Pacific

H Estuaries and adjacent coastal waters with mud bottoms

S 9 cm SL

(K. Shibukawa)



Family Butidae

Oxyeleotris marmorata

(Bleeker 1852)

En Marble Goby

C • Body pale brown or beige with large, irregular blackish blotches (faded in photographed specimen) • No ventrally-directed spine at rear edge of preopercle • 75–90 longitudinal scales

D Western Pacific (Malaysia to Indonesia)

H Lower reaches of rivers, streams, reservoirs and/or ponds

S 60 cm SL

(K. Shibukawa)



O. marmorata, KAUM-I. 57181, 75.7 mm SL



Family Eleotridae

Eleotris acanthopoma

Bleeker 1853

En Spinecheek Gudgeon

C • No sensory-canal pores on head • A ventrally-directed spine at rear edge of preopercle • 6 vertical rows of sensory papillae below eye

D Indo-Pacific (Mozambique to Mariana Is.)

H Estuaries and adjacent freshwater habitats with sandy-mud bottoms

S 12 cm SL

(K. Shibukawa)



E. acanthopoma, KAUM-I. 57180, 81.2 mm SL



Family Gobiidae

Arcygiobius baliurus

(Valenciennes 1837)

En Isthmus Goby

A. baliurus, UPVMI 909, 43.4 mm SL

C • Cheek and operculum scaled • Gill membranes united medially, with a free rear margin across isthmus • Numerous transverse rows of sensory papillae on cheek

D Indo-Pacific (east coast of Africa to Micronesia)

H Coastal waters with soft mud bottoms

S 7 cm SL

(K. Shibukawa)

*A. baliurus*, KAUM-I. 62914, 59.2 mm SL

Family Gobiidae

Awaous melanocephalus

(Bleeker 1849)

En Largesnout Goby

C • Snout relatively long, projecting beyond lower jaw • No black spot at rear part of dorsal fin • Cheek naked

D Western Pacific (Japan to Malaysia)

H Freshwater streams

S 15 cm SL

(K. Shibukawa)

*A. melanocephalus*, KAUM-I. 80838, 50.3 mm SL

Family Gobiidae

Awaous ocellaris

(Broussonet 1782)

En Spotfin River Goby

C • Snout relatively long, projecting beyond lower jaw • A distinct black spot at rear part of dorsal fin • Cheek partly scales

D Western Pacific (Japan to Malaysia)

H Freshwater streams

S 15 cm SL

(K. Shibukawa)

*A. ocellaris*, KAUM-I. 80840, 49.3 mm SL



E. bombylios, KAUM-I. 80746, 32.3 mm SL

Family Gobiidae

Egglestonichthys bombylios

Larson & Hoese 1997

 Egglestone's Bumblebee Goby

C • Eyes small; predorsal scales extending anteriorly to snout • Distinct transverse rows of sensory papillae on cheek

D Indo-West Pacific (India to Australia)

H Coastal waters with soft mud bottom to 29 m depth

S 6 cm SL

R The present occurrence represents the first record for the species from the Philippines

(K. Shibukawa)



G. aureus, KAUM-I. 57179, 78.3 mm SL

Family Gobiidae

Glossogobius aureus

Akihito & Meguro 1975

 Golden Flathead Goby

C • Snout relatively long and flattened • Lower jaw projecting anteriorly beyond upper jaw • All sensory-papillae rows on cheek uniserial

D Western Pacific (Japan to Malaysia)

H Lower reaches of rivers and adjacent freshwater habitats

S 19 cm SL

(K. Shibukawa)



G. aureus, UPVMI 1677, 75.8 mm SL

Family Gobiidae

Mahidolia mystacina

(Valenciennes 1837)

 Flagfin Prawn Goby

C • Jaws extending posteriorly well beyond a vertical through rear edge of eye • 33–39 longitudinal scales • Broad dark oblique bars on body

D Indo-West Pacific (Mozambique to Samoa)

H Estuaries and adjacent coastal waters with soft mud bottoms

S 5 cm SL

(K. Shibukawa)



M. mystacina, KAUM-I. 69413, 45.7 mm SL

Family Gobiidae

Oplopomus caninoides

(Bleeker 1852)

En Triplespot Goby

C • Cheek and operculum scaled • Anteriormost spines of first and second dorsal fins stout and pungent • A large black spot at midway between a pair of smaller black spots at caudal-fin base

D Indo-West Pacific (Maldives to Japan)

H Coastal waters with soft mud bottoms

S 5 cm SL

(K. Shibukawa)

*O. caninoides*, UPVMI 158, 39.1 mm SL*O. auchenolepis*, KAUM-I. 51682, 134.5 mm SL

Family Gobiidae

Oxyurichthys auchenolepis

Bleeker 1876

En Scaly-nape Tentacle Goby

C • A single row of teeth on upper jaw • A low cutaneous ridge along predorsal midline • No prominent blackish blotches/spots on body

D Western Pacific (Japan to Australia)

H Coastal waters with mud bottoms to 50 m depth

S 13 cm SL

(K. Shibukawa)

*O. auchenolepis*, KAUM-I. 91827, 131.7 mm SL*P. polynema*, KAUM-I. 69414, 33.6 mm SL

Family Gobiidae

Parachaeturichthys polynema

(Bleeker 1853)

En Tailye Goby

C • Cheek and operculum scaled • Many short barbels on ventral surface of head • Large ocellus at dorsal part of caudal fin

D Indo-West Pacific (South Africa to Japan)

H Coastal waters with mud bottoms

S 12 cm SL

(K. Shibukawa)

*P. polynema*, KAUM-I. 91830, 109.0 mm SL



Y. nebulosus, KAUM-I. 57195, 48.0 mm SL

Family Gobiidae

Yongeichthys nebulosus

(Forsskål 1775)

En Shadow Goby

C • Head naked; body with a midlateral series of three large black spots • Anal fin with a black margin

D Indo-West Pacific (east coast of Africa to Japan)

H Estuaries and adjacent coastal waters with sandy and/or mud bottoms

S 12 cm SL

(K. Shibukawa)



Y. nebulosus, KAUM-I. 80759, 76.9 mm SL

Family Oxudercidae

Ctenotrypauchen chinensis

Steindachner 1867

En —

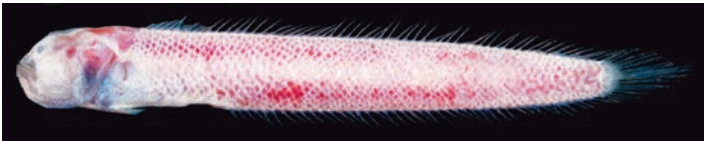
C • Total 53–57 dorsal-fin elements • Frontal crest exposed, with a serrated dorsal margin • Ventral surface of trunk naked

D Western Pacific (China to Arafura Sea)

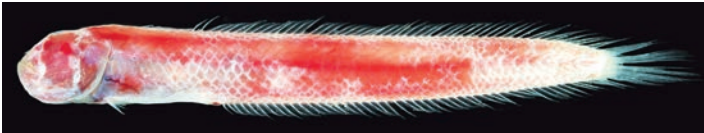
H Probably soft mud bottoms at depths of 50–70 m

S 12 cm SL

(K. Shibukawa)



C. chinensis, KAUM-I. 51678, 97.1 mm SL



P. microcephalus, KAUM-I. 69412, 77.8 mm SL

Family Oxudercidae

Paratrypauchen microcephalus

(Bleeker 1860)

En Comb Goby

C • Total 50–60 dorsal-fin elements • Frontal crest subdermal or only slightly exposed, with a smooth dorsal margin • Ventral surface of trunk naked

D Indo-West Pacific (India to Japan and Indonesia)

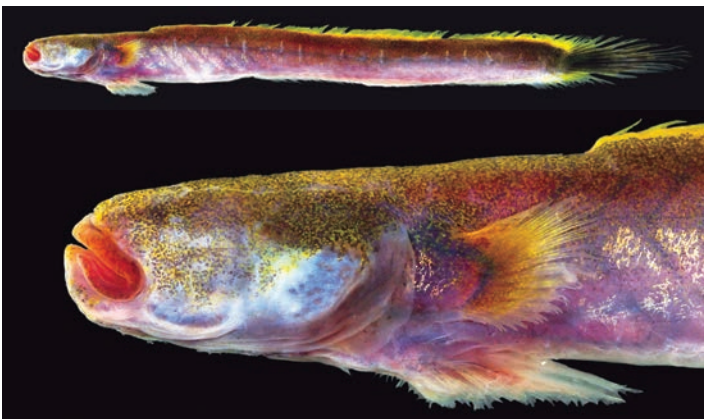
H Estuaries and adjacent coastal waters with soft mud bottoms

S 15 cm SL

(K. Shibukawa)



P. microcephalus, KAUM-I. 80763, 79.4 mm SL



T. intermedia, KAUM-I. 56061, 74.5 mm SL

Family Oxudercidae

Trypauchenopsis intermedia

Volz 1903

En Bearded Eel Goby

C • Total 34–41 dorsal-fin elements • No raised cutaneous ridges on head • Head and body entirely naked

D Indo-Pacific (South Africa to Mariana Is.)

H Estuaries with soft mud bottoms

S 12 cm SL

(K. Shibukawa)

Family Ephippidae

Platax batavianus

Cuvier 1831

En Zebra Batfish

C • VI–VII, 28–32 dorsal-fin rays • III, 19–23 anal-fin rays • 64–75 lateral-line scales • Body silver with broad black vertical bands in juveniles

D Western Pacific (Vietnam to Australia)

H Coral reefs in depths of 5–60 m

S 65 cm TL

(T. Inaba)

Family Ephippidae

Platax pinnatus

(Linnaeus 1758)

En Pinnate Batfish

C • All fins, except for pectoral fins, margined with red in juveniles • V–VI, 34–37 dorsal-fin rays • III, 25–27 anal-fin rays

D Indo-West Pacific (Persian Gulf to Japan and Australia)

H Coastal reefs in depths of 2–25 m

S 37 cm TL

(T. Inaba)

*P. pinnatus*, UPVMI 2123, 323.2 mm SL*P. batavianus*, UPVMI 995, 152.3 mm SL

Family Ephippidae

Platax teira

(Forsskål 1775)

En Spotbelly Batfish

C • V–VI, 29–34 dorsal-fin rays • III, 22–26 anal-fin rays • 56–66 lateral-line scales • Pelvic fins yellowish • Black blotch on lateral surface of body at posterior to pelvic-fin base • Body depth greater than SL in juveniles • Dorsal and anal fins gradually shortening with growth relative to body size

D Indo-West Pacific (South Africa to Japan and Australia)

H Juveniles with driftages; adults in coastal midwaters

S 70 cm TL

(T. Inaba)

*P. teira*, UPVMI 1517, 222.8 mm SL



S. argus, UPVMI 509, 139.0 mm SL

Family Scatophagidae

Scatophagus argus

(Linnaeus 1766)

En Spotted Scat

C • XI, 16–18 dorsal-fin rays
• IV, 14–15 anal-fin rays • 16 pectoral-fin rays • Body with a few large blotches in juveniles and with numerous small spots in adults

D Indo-Pacific (Kuwait to Japan and Society Is.)

H Muddy bottoms in shallow waters and estuaries

S 30 cm SL

(K. Kuriwa)

Family Siganidae

Siganus fuscescens

(Houttuyn 1782)

En Mottled Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 15–18 (usually 16) pectoral-fin rays

• Numerous white spots on head, body, and fins • Dorsal-fin spines slender • Snout blunt • Caudal fin truncated

D Eastern Indian and western Pacific oceans (Andaman Is. to Korea and Australia)

H Rocky and coral reefs, and seagrass beds

S 40 cm TL

R Fin spines venomous; usually forming schools

(K. Kuriwa)



S. fuscescens, UPVMI 1666, 107.2 mm SL

Family Siganidae

Siganus guttatus

(Bloch 1787)

En Orange-spotted Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 15–17 pectoral-fin rays • Bright yellow spots on body and caudal fin; yellow spots and lines on head • Dorsal-fin spines stout • Snout blunt • Caudal fin truncated • Body depth relatively deep

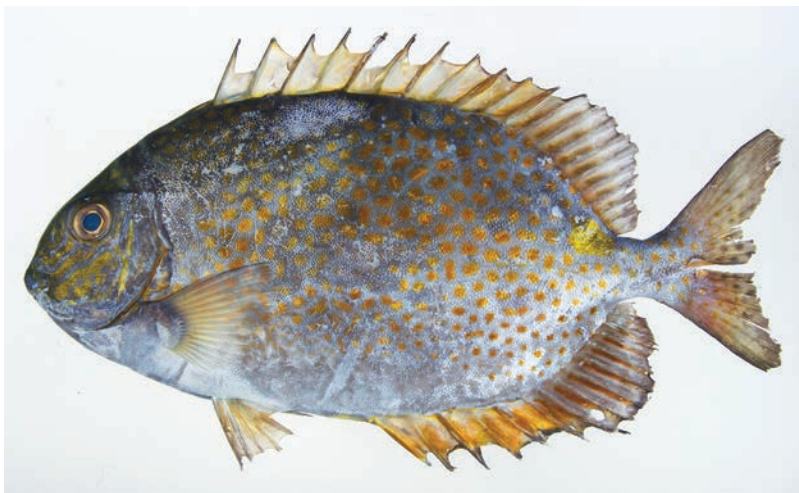
D Western Pacific Ocean (Japan to Australia)

H Brackish and coastal waters

S 45 cm TL

R Fin spines venomous; usually forming schools

(K. Kuriwa)



S. guttatus, UPVMI 185, 250.4 mm SL

Family Siganidae

Siganus puellus

(Schlegel 1852)

En Masked Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 15–17 (usually 16) pectoral-fin rays • Broad blackish band from chin through eye to nape • Dorsal-fin spines stout • Snout relatively elongate • Caudal fin forked • Body depth relatively narrow

D Eastern Indian and western Pacific oceans (Cocos-Keeling Is. to Japan, New Caledonia, and Australia)

H Coral reefs**S** 38 cm TL

R Fin spines venomous; forming schools in juveniles, occurring as pairs in adults

(K. Kuriwa)

*S. puellus*, UPVMI 835, 197.8 mm SL

Family Siganidae

Siganus punctatus

(Schneider & Forster 1801)

En Gold-spotted Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 16–18 (usually 16 or 17) pectoral-fin rays • Numerous orange spots on head, body, and fins • Dorsal-fin spines stout • Snout blunt • Caudal fin forked • Body depth relatively deep

D Eastern Indian and western Pacific oceans (Cocos-Keeling Is. to Japan, Samoa, and Australia)

H Coral reefs**S** 45 cm TL

R Fin spines venomous; forming schools in juveniles, occurring as pairs in adults

(K. Kuriwa)

*S. punctatus*, UPVMI 1650, 270.8 mm SL

Family Siganidae

Siganus spinus

(Linnaeus 1758)

En Little Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 16–18 pectoral-fin rays • Vermiculated lines on body • Dorsal-fin spines slender • Snout blunt • Caudal fin truncated • Body depth relatively narrow

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan and French Polynesia)

H Rocky and coral reefs, and seagrass beds**S** 23 cm TL

R Fin spines venomous; usually forming schools.

(K. Kuriwa)

*S. spinus*, UPVMI 289, 93.0 mm SL



Z. cornutus, KAUM-I. 52600, 55.7 mm SL



S. virgatus, UPVMI 508, 149.7 mm SL

Family Siganidae

Siganus virgatus

(Valenciennes 1835)

 Double-barred Spinefoot

C • XIII, 10 dorsal-fin rays • VII, 9 anal-fin rays • 16–18 (usually 16 or 17) pectoral-fin rays • 2 brown bands, anterior one from chin through eye to nape and posterior one from bases of 4th to 5th dorsal-fin spines to

base of pectoral fin • Dorsal-fin spines stout • Snout blunt • Caudal fin truncated • Body depth relatively deep **D** Indo-West Pacific (India to Japan and Australia)

H Coral reefs

S 33 cm TL

R Fin spines venomous; usually occurring as pairs in young and adults

(K. Kuriwa)

Family Zanclidae

Zanclus cornutus

(Linnaeus 1758)

 Moorish Idol

C • VI–VII, 39–43 dorsal-fin rays • III, 32–36 anal-fin rays • 3rd dorsal-fin spine extremely long and filamentous, usually longer

than SL • Body strongly compressed laterally • Snout tubular

D Indo-Pacific and eastern Pacific oceans (East Africa to southern Gulf of California and Peru)

H Rocky and coral reefs

S 22 cm TL

(K. Kuriwa)

Family Acanthuridae

Acanthurus mata

(Cuvier 1829)

En Elongate Surgeonfish

C • 9 dorsal-fin spines • Single lancet-like spine on each side of caudal peduncle • Broad yellow band across eye • Head and body with numerous blue lines • Pectoral fin dark

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Shallow coastal waters around rocky and coral reefs

S 30 cm SL

R Common around Panay I.
(M. Matsunuma)



A. mata, UPVMI 833, 227.4 mm SL

Family Acanthuridae

Acanthurus nigricaudus

(Duncker & Mohr 1929)

En Epulette Surgeonfish

C • 9 dorsal-fin spines • Single lancet-like spine on each side of caudal peduncle • Black longitudinal band behind eye • Long pointed black streak extending anteriorly from peduncular spine • Pectoral fin blackish, outer margin yellowish

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Shallow coastal waters around rocky and coral reefs

S 24 cm SL

R Common around Panay I.

(M. Matsunuma)



A. mata, UPVMI 881, 243.3 mm SL



A. nigricaudus, UPVMI 506, 203.3 mm SL



A. xanthopterus, UPVMI 505, 171.7 mm SL

Family Acanthuridae

Acanthurus xanthopterus

Valenciennes 1835

E Yellowfin Surgeonfish

C • 9 dorsal-fin spines • Single lancet-like spine on each side of caudal peduncle • Yellow band across eye • Dorsal and anal fins yellow with 4 blue bands • Pectoral fin yellowish

D Indo-Pacific and eastern Pacific (east coast of Africa to Japan and Galapagos)

H Shallow coastal waters around coral reefs

S 50 cm SL

R Common around Panay I. (M. Matsunuma)



C. striatus, UPVMI 507, 153.1 mm SL

Family Acanthuridae

Ctenochaetus striatus

(Quoy & Gaimard 1825)

E Striated Surgeonfish

C • 8 dorsal-fin spines • Caudal fin strongly emarginate • Single lancet-like spine on each side of caudal peduncle • Dorsal and anal fins with about 5 bluish bands • Body with numerous dark narrow lines

D Indo-Pacific (east coast of Africa to Japan and French Polynesia)

H Shallow coastal waters around coral reefs

S 20 cm SL

R Common around Panay I. (M. Matsunuma)



N. fageni, UPVMI 834, 213.8 mm SL

Family Acanthuridae

Naso fageni

Morrow 1954

E Striated Surgeonfish

C • V, 24–26 dorsal-fin rays • II, 23–25 anal-fin rays • Caudal fin strongly emarginate • 2 fixed bony plate on each side of caudal peduncle • Short protuberance on snout (absent in juvenile)

D Indo-West Pacific (east coast of Africa to Japan and the Philippines)

H Coastal rocky reefs

S 80 cm SL

R The present juvenile specimen was identified as *N. fageni* by having relatively fewer numbers of dorsal- and anal-fin soft rays (26 and 25, respectively) within *Naso*

(M. Matsunuma)

Family Acanthuridae

Naso tergus

Ho, Shen & Chang 2011

En —

C • VI, 26–30 dorsal-fin rays
 • II, 26–28 anal-fin rays • 2
 fixed bony plate on each side
 of caudal peduncle • Caudal
 fin truncate • No protuber-
 ance on head

D Northwestern Pacific (Japan,
 Taiwan, and the Philippines)

H Coastal rocky reefs

S 35 cm SL

R Matsunuma et al. (2014)
 recorded the present specimen
 as the first record of *N. tergus*
 from the Philippines

(M. Matsunuma)



N. tergus, KAUM-I. 56004, 159.4 mm SL



Naso sp. 1, UPVMI 264, 61.1 mm SL



Naso sp. 2, KAUM-I. 62998, 54.0 mm SL



Naso sp. 3, UPVMI 447, 163.1 mm SL

Family Acanthuridae

Naso sp. 1

C • VI, 27 dorsal-fin rays •
 II, 28 anal-fin rays
 (M. Matsunuma)

Family Acanthuridae

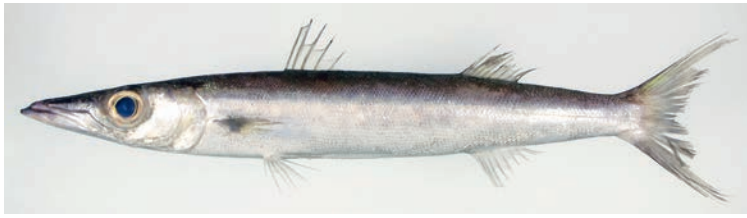
Naso sp. 2

C • VI, 29 dorsal-fin rays •
 II, 30 anal-fin rays
 (M. Matsunuma)

Family Acanthuridae

Naso sp. 3

C • V, 30 dorsal-fin rays • II,
 28 anal-fin rays
 (M. Matsunuma)

*S. forsteri*, UPVMI 1239, 277.1 mm SL*S. forsteri*, KAUM-I. 63025, 105.9 mm SL*S. jello*, UPVMI 631, 305.5 mm SL*S. jello*, UPVMI 561, 447.1 mm SL*S. jello*, KAUM-I. 57196, 64.7 mm SL*S. obtusata*, KAUM-I. 80842, 105.3 mm SL*S. obtusata*, UPVMI 915, 216.3 mm SL

Family Sphyraenidae

Sphyraena forsteri

Cuvier 1829

En Bigeye Barracuda

C • Gill rakers tubercle-like with minute spines • 118–133 lateral-line scales • No bands or stripes on body • A dark blotch behind pectoral-fin axilla

D Indo-Pacific, except for Hawaiian Is.

H Shallow waters of bays and coral reefs

S 65 cm SL

R Nocturnal; piscivorous; seen in schools by day

(H. Senou)

Family Sphyraenidae

Sphyraena jello

Cuvier 1829

En Pickhandle Barracuda

C • No gill rakers • 130–140 lateral-line scales • 11 wide, divided dark bands on upper half of body in young, increasing to about 20 with growth • Caudal fin yellow

• Lower lobe of caudal fin blackish in juveniles

D Indo-West Pacific (east coast of Africa to Taiwan and Fiji)

H Shallow turbid waters of bays

S 1.4 m SL

R Diurnal; piscivorous; solitary or in small schools

(H. Senou)

Family Sphyraenidae

Sphyraena obtusata

Cuvier 1829

En Obtuse Barracuda

C • 2 gill rakers • 78–85 lateral-line scales • Origin of pelvic fin before origin of 1st dorsal fin • Posterior tip of opercle obtuse • Body with two yellowish-brown stripes (sometime indistinct), lower one starting at upper end of pectoral-fin base

D Indo-West Pacific (east coast of Africa to Japan and Fiji); introduced to Black Sea and the eastern part of Mediterranean Sea

H Coastal shallow waters, including coral reefs

S 21 cm SL

R Probably nocturnal; piscivorous; seen in schools by day

(H. Senou)

Family Gempylidae

Gempylus serpens

Cuvier 1829

En Snake Mackerel

C • Head and body remarkably elongate • 5–7 dorsal and anal finlets • 2 lateral lines • Body dark brown with silvery reflection

D Circumglobal in tropical through warm temperate seas
H Epi- and mesopelagic at depths 0–200 m

S 1 m SL

R Common off Panay I., but rarely found at markets due to pelagic fish

(M. Okamoto)

*G. serpens*, UPVMI 613, 571.9 mm SL*G. serpens*, KAUM-I. 51683, 449.6 mm SL

Family Gempylidae

Lepidocybium flavobrunneum

(Smith 1843)

En Escolar

C • Body nearly fusiform • First dorsal fin low • Caudal peduncle with large keel • Lateral line sinuous

D Circumglobal in tropical through warm temperate seas
H Continental slope (below 200 m during the day, but surface water at night)

S 2 m SL

R Escolar flesh contains high concentrations of an indigestible wax ester that is a natural laxative

(M. Okamoto)

*L. flavobrunneum*, UPVMI 618, 246.2 mm SL

Family Gempylidae

Promethichthys prometheus

(Cuvier 1832)

En Roudi Escolar

C • Body entirely scaled • 1 lateral line • 1 spine and 17–20 soft rays in second dorsal fin • Pelvic fin degenerate

D Circumglobal in tropical and subtropical waters

H Benthopelagic (100–800 m during the day, but surface water at night)

S 1 m SL

R Common off Panay I., but rarely found at markets

(M. Okamoto)

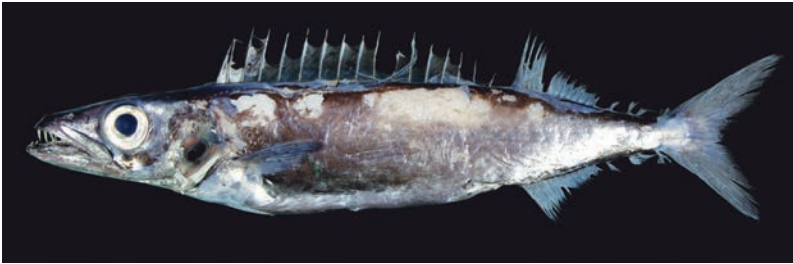
*P. prometheus*, UPVMI 932, 534.3 mm SL



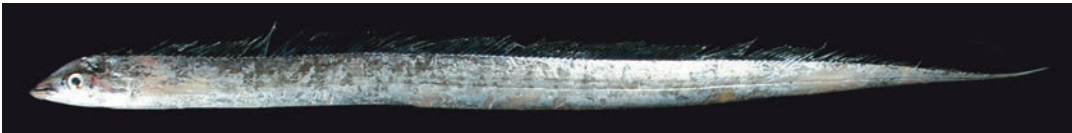
R. bengalensis, KAUM-I. 80841, 159.6 mm SL



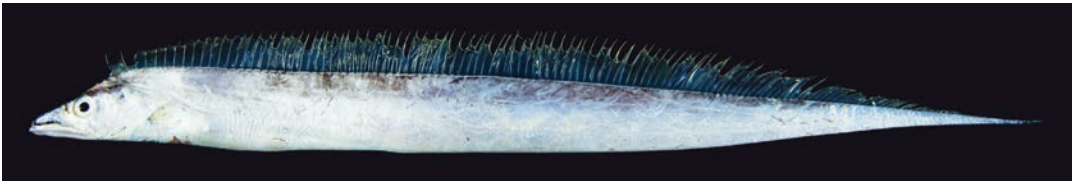
R. bengalensis, KAUM-I. 80882, 167.4 mm SL



R. bengalensis, UPVMI 809, 227.3 mm SL



T. cristatus, UPVMI 612, 630.0 mm TL



T. lepturus, UPVMI 1617, 528.0 mm TL

Family Trichiuridae

Tentoriceps cristatus

(Klunzinger 1884)

En Crested Hairtail

C • Body extremely elongate • Caudal fin absent • Dorsal profile of head round • Pelvic fin reduced to scale-like process

D Indo-West Pacific (east coast of Africa and Red Sea to Philippines, Japan, and Australia)

H Benthopelagic in continental shelves

S 1.6 m TL

R Marketed fresh and dried-salted, frequently mixed with Largehead Hairtail. Common around Panay I.

(M. Okamoto)

Family Trichiuridae

Trichiurus lepturus

Linnaeus 1758

En Largehead Hairtail

C • Body extremely elongate • Caudal fin absent • Dorsal profile of head straight • Pelvic fin absent

D Circumglobal in tropical and temperate waters

H Continental shelves and slope waters (inshore to a depth of at least 350 m)

S 2 m TL

R Common around Panay I., and marketed fresh and dried-salted

(M. Okamoto)

Family Gempylidae

Rexea bengalensis

(Alcock 1894)

En Bengal Escolar

C • Body naked • Lower lateral line originating under or a little behind 5th dorsal-fin spine • Upper lateral line reaching at least to end of 2nd dorsal-fin base

D Indo-West Pacific (Mozambique to Taiwan, northern Australia, and New Caledonia)

H Benthopelagic (143–820 m depth)

S 22 cm SL

R Common off Panay I., but rarely found at markets

(M. Okamoto)

Family Scombridae

Acanthocybium solandri

(Cuvier 1831)

En Wahoo

C • Body elongate, cylindrical • XXIII–XXVII, 12–16 + 8–9 dorsal-fin rays • 12–14 + 8–9 anal-fin rays • Gill rakers absent • Body silver, black dorsally with numerous narrow black vertical bars

D Cosmopolitan**H** Pelagic**S** 210 cm FL**R** Common around Panay I. Adults frequently landed at markets

(H. Hata)

*A. solandri*, UPVMI 999, 523.7 mm SL

Family Scombridae

Auxis rochei rochei

(Risso 1810)

En Bullet Tuna

C • Body elongate, cylindrical • Black blotch on upper part of opercle connecting to black area of dorsum • Posterior end of scaled area of corselet extending beyond vertical through second dorsal-fin origin • Posterior tip of pectoral fin not reaching to vertical through anterior margin of naked area of dorsum

D Circumglobal in tropical to temperate seas, except for eastern Pacific**H** Coastal waters**S** 55 cm TL

(H. Hata)

*A. rochei rochei*, UPVMI 1082, 256.3 mm SL

Family Scombridae

Auxis thazard

(Lacepède 1800)

En Frigate Tuna

C • Body elongate, cylindrical • Black blotch on upper part of opercle not connecting to black area of dorsum • Posterior end of scaled area of corselet not reaching to vertical through second dorsal-fin origin • Posterior tip of pectoral fin reaching to vertical through anterior margin of naked area of dorsum

D Circumglobal in tropical and temperate seas, except for eastern Pacific**H** Coastal waters**S** 60 cm TL

(H. Hata)

*A. thazard*, KAUM-I. 80657, 273.0 mm SL



E. affinis, UPVMI 978, 415.0 mm SL

Family Scombridae

Euthynnus affinis

(Cantor 1849)

En Kawakawa

C • Jaws with small conical teeth in a single series • Palatines without teeth • Body with numerous narrow stripes on posterior part of dorsum • Black spots between pectoral and pelvic fins

D Indo-Pacific (East Africa to Hawaiian Is. and Tonga), eastern Pacific

H Coastal waters and around offshore islands

S 1 m TL

R Both juveniles and adults are landed in markets

(H. Hata)



G. bilineatus, UPVMI 1776, 347.6 mm SL

Family Scombridae

Grammatorcynus bilineatus

(Rüppell 1836)

En Doublelined Mackerel

C • Lateral line double, lower branch joining upper behind pectoral-fin base and caudal peduncle • 18–24 total gill rakers • Black indistinct blotches on lateral surface of body in juveniles

D Indo-Pacific (Red Sea to Japan and Tokelau Is.)

H Epipelagic; coral reefs

S 1 m FL

R Marketed mainly fresh, but perishable

(H. Hata)



K. pelamis, UPVMI 1127, 516.0 mm SL

Family Scombridae

Katsuwonus pelamis

(Linnaeus 1758)

En Skipjack Tuna

C • 53–63 total gill rakers • Palatines without teeth • 4–6 black stripes (becoming distinct after death) on lateral surface of abdomen

D Cosmopolitan

H Epipelagic and oceanic

S 1.1 m TL

R Common around Panay I. Both juveniles and adults are landed in markets

(H. Hata)

Family Scombridae

Rastrelliger brachysoma
(Bleeker 1851)

En Short Mackerel

C • 30–48 gill rakers • Body deep, its depth at posterior margin of opercle 3.7–4.3 in FL • Indistinct black blotches on dorsum

D Eastern Indian and western Pacific oceans (Andaman Is. to Fiji)

H Coastal waters

S 35 cm FL

(H. Hata)

*R. brachysoma*, UPVMI 169, 179.0 mm SL

Family Scombridae

Rastrelliger faughni
Matsui 1967

En Island Mackerel

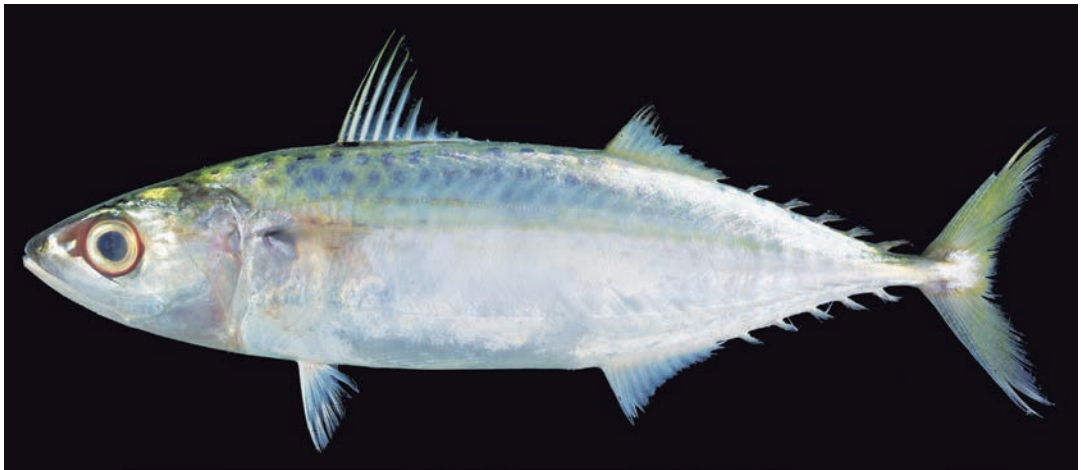
C • 21–26 gill rakers • Body elongate, its depth at posterior margin of opercle 4.9–6.0 in FL • 2 rows of blue blotches on dorsum

D Eastern Indian and western Pacific oceans (India to Taiwan and Fiji)

H Coastal waters

S 20 cm FL

(H. Hata)

*R. brachysoma*, UPVMI 192, 175.8 mm SL*R. faughni*, KAUM-I. 80695, 170.4 mm SL*R. faughni*, KAUM-I. 80696, 158.6 mm SL*R. faughni*, UPVMI 373, 158.5 mm SL



R. kanagurta, UPVMI 761, 160.0 mm SL



S. orientalis, UPVMI 660, 369.9 mm SL



S. orientalis, UPVMI 1620, 294.9 mm SL



S. australasicus, KAUM-I. 80698, 241.6 mm SL

Family Scombridae

Rastrelliger kanagurta

(Cuvier 1816)

En Indian Mackerel

C • 30–46 gill rakers • Body elongate, its depth at posterior margin of opercle 4.3–5.2 in FL • Indistinct black blotches on dorsum • Green stripes on lateral surface of body

D Indo-West Pacific (East Africa to Japan, Samoa, and Australia), eastern Mediterranean Sea (Red Sea immigrant)

H Coastal waters

S 35 cm FL

R Common around Panay I., frequently found at markets. Marketed fresh, dried and dried-salted

(H. Hata)

Family Scombridae

Sarda orientalis

(Temminck & Schlegel 1844)

En Striped Bonito

C • 12–20 upper-, 10–17 lower-jaw teeth • Vomer and tongue toothless • 8–13 total gill rakers • Body with numerous dark slightly oblique narrow stripes running forward and downward in adults • Numerous black vertical bands on lateral surface of body in juveniles

D Indian and Pan Pacific oceans (East Africa to western coast of Central America)

H Epipelagic and neritic

S 1 m FL

R Marketed mainly fresh

(H. Hata)

Family Scombridae

Scomber australasicus

Cuvier 1831

En Spotted Chub Mackerel

C • XI–XII-I, 11–12 dorsal-fin rays, 5 dorsal finlets • I, 11–13 anal-fin rays, 5 anal finlets • Distance between origins of first to nine dorsal-fin spines less than 12% of FL • Black vermicular markings on dorsum • Numerous small black spots on ventral surface of body in adults

D Indo-Pacific (Red Sea to Hawaiian Is. and New Zealand), eastern Pacific (Mexico)

H Epipelagic and neritic

S 40 cm FL

(H. Hata)

Family Scombridae

Scomberomorus commerson
(Lacepède 1801)

En Narrowbarred Spanish Mackerel

C • Lateral line abruptly bent downward below end of second dorsal fin • Body with numerous wavy vertical black bands in adults • Numerous black blotches on lateral surface on body in juveniles • Teeth on jaws strong with serrated edge

D Indo-West Pacific (East Africa to Japan and Fiji), eastern Mediterranean Sea (Lebanon)

H Pelagic, shallower than depths of 200 m

S 2.2 m TL

R Common around Panay I. Both juveniles and adults are landed in markets

(H. Hata)

*S. commerson*, UPVMI 170, 264.1 mm SL*S. commerson*, UPVMI 563, 159.2 mm SL

Family Scombridae

Thunnus albacares

(Bonnaterre 1788)

En Yellowfin Tuna

C • 14–15 anal-fin rays • 32–35 pectoral-fin rays • 27–34 gill rakers • Dorsal view of liver right lobe of longest and thin, medial and left lobes rounded • Small swimbladder with expanded anterior part

D Tropical and temperate sea of the world

H Epipelagic and oceanic

S 2 m FL

R Common around Panay I. Around payao

(F. Muto)

*T. albacares*, UPVMI 1056, 158.2 mm SL*T. albacares*, UPVMI 1694, 335.7 mm SL

Family Scombridae

Thunnus tonggol

(Bleeker 1851)

En Longtail Tuna

C • 13–14 anal-fin rays • 30–35 pectoral-fin rays • 20–25 gill rakers • Dorsal view of liver same as Yellowfin Tuna • Swimbladder absent or rudimentary

D Indo-West Pacific (northeastern Africa to Japan and Australia)

H Epipelagic and netric

S 1.5 m FL

R Appears at fish markets with small Yellowfin Tuna. Not around payao

(F. Muto)

*T. tonggol*, KAUM-I. 62955, 149.3 mm SL



C. striata, KAUM-I. 91852, 332.9 mm SL

Family Channidae

Channa striata

(Bloch 1793)

En Striped Snakehead

C • 38–43 dorsal-fin rays • 23–27 anal-fin rays • Body dark grey dorsally, white ventrally, with irregular blackish bars

D Native range from Pakistan to Indochina, Malaysia, and Indonesia; introduced elsewhere, including Philippines

H Brackish and freshwaters

S 1.5 m TL

(H. Motomura)



P. erumei, UPVMI 635, 361.0 mm SL

Family Psettodidae

Psettodes erumei

(Bloch & Schneider 1801)

En Indian Halibut

C • Anterior dorsal- and anal-fin rays spinous • IX–XI, 38–45 dorsal-fin rays • I, 33–43 anal-fin rays • Mouth large with strong teeth on jaws • Both eyes mostly on left side, but occasionally on right side

D Indo-West Pacific (Red Sea and East Africa to Taiwan and Australia)

H Muddy and sandy bottoms in depths of 1–100 m

S 60 cm TL

(B. Jeong)



P. erumei, UPVMI 634, 370.6 mm SL



P. erumei, UPVMI 634, 370.6 mm SL

Family Paralichthyidae

Pseudorhombus arsius

(Hamilton 1822)

En Largetooth Flounder

C • 71–84 dorsal-fin rays • 53–62 anal-fin rays • Several pairs of moderately large canines in anterior parts of both jaws • 6–13 lateral teeth in lower jaw • Ctenoid scales on eyed side, cycloid scales on blind side

D Indo-West Pacific (east coast of Africa to Fiji)

H Muddy and sandy bottoms in shallow waters (less than 200 m depth) and estuaries

S 35 cm TL

(B. Jeong)



P. arsius, UPVMI 225, 164.6 mm SL



Family Paralichthyidae

Pseudorhombus dupliciocellatus

Regan 1905

En Ocellated Flounder

C • 72–78 dorsal-fin rays • 56–63 anal-fin rays • Eyed side brownish, with 1 or 2 pairs of distinct double ocelli above and below lateral line, and many dark rings and spots scattered on body and fins

D Eastern Indian and western Pacific oceans (Nicobar Is. to Japan and Australia)

H Muddy and sandy bottoms in continental shelves in depths of 50–150 m

S 40 cm TL

*P. dupliciocellatus*, UPVMI 228, 163.3 mm SL

(B. Jeong)

Family Paralichthyidae

Pseudorhombus javanicus

(Bleeker 1853)

En Javan Flounder

C • 67–76 dorsal-fin rays • 51–56 anal-fin rays • Ctenoid scales on anterior part, dorsal, and ventral margins of eyed side of body, cycloid scales on remaining areas • Cycloid scales on blind side

D Indo-West Pacific (Persian Gulf to China and New Guinea)

H Muddy and sandy bottoms in continental shelves in depths of 22–38 m

S 35 cm TL

(B. Jeong)

*P. javanicus*, KAUM-I. 63078, 118.3 mm SL



P. malayanus, KAUM-I. 57193, 144.5 mm SL

Family **Paralichthyidae**

Pseudorhombus malayanus

Bleeker 1865

 Malayan Flounder

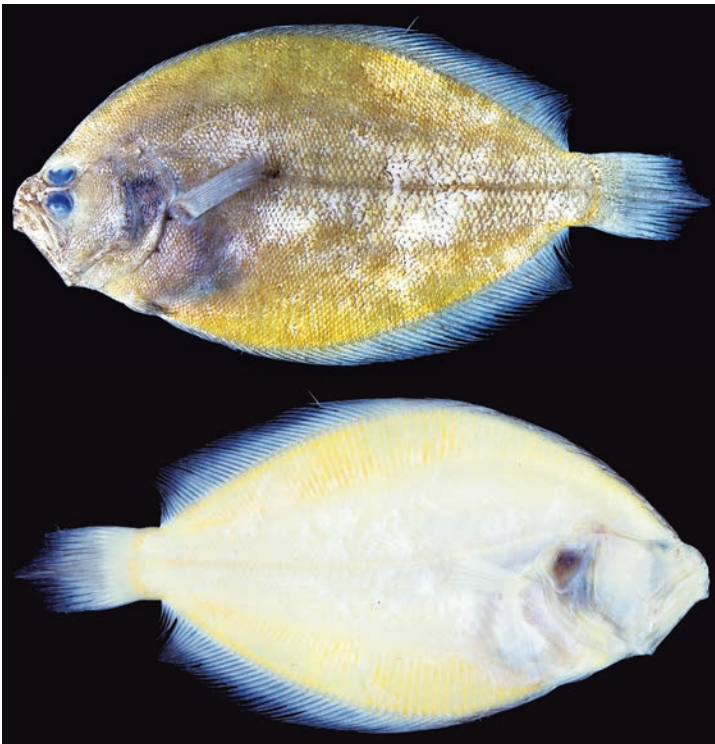
C • 72–74 dorsal-fin rays • 58–59 anal-fin rays • Posterior margin of maxilla extending beyond posterior margin of lower eye • Ctenoid scales on both sides of body • Eyed side dark brown, with small dark blotch at junction of straight and curved lateral lines

D Indo-West Pacific (Persian Gulf to Philippines and Indonesia)

H Muddy and sandy bottoms in shallow waters at depths of 20–27 m

S 40 cm TL

(B. Jeong)



P. oligodon, KAUM-I. 94034, 142.7 mm SL (preserved specimen)

Family **Paralichthyidae**

Pseudorhombus oligodon

(Bleeker 1854)

 Roughscale Flounder

C • 78–82 dorsal-fin rays • 61–65 anal-fin rays • 2 black spots along gill opening below pectoral-fin base • Eyed side creamy brown, with small dark blotch at junction of straight and curved lateral lines

D Japan to South China Sea

H Muddy and sandy bottoms in shallow waters at depths of 30–40 m

S 30 cm TL

R The present specimen represents the first specimen-based record of the species from the Philippines

(B. Jeong)

Family Bothidae

Arnoglossus aspilos

(Bleeker, 1851)

Spotless Lefteye Flounder

C • 78–84 dorsal-fin rays • 58–64 anal-fin rays • 46–48 lateral-line scales • Body relatively deep • Mouth relatively small • Small teeth present on both side jaws • Eyes large, 3–4 times in HL • Narrow interorbital region • Eyed side mottled brown with small spots, and blind side creamy white

D Indo-West Pacific (Persian Gulf to Taiwan and Australia)

H Muddy and sandy bottoms in depths of 30–71 m

S 19 cm TL

(B. Jeong)

*A. polyspilus*, KAUM-I. 57201, 50.8 mm SL

Family Bothidae

Engyprosopon grandisquama

(Temminck & Schlegel 1846)

Largescale Flounder

C • 79–87 dorsal-fin rays • 59–65 anal-fin rays • Single strong spine near tip of snout in males, absent or feeble in females • Gill rakers on first gill arch absent on upper limb, 5–8 short, non-serrae on lower limb • Pair of prominent black blotches on caudal fin

D Indo-West Pacific (East Africa to Japan, New Caledonia, and Australia)

H Muddy and sandy bottoms in depths of 7–200 m

S 13 cm TL

(B. Jeong)

*E. grandisquama*, UPVMI 659, 80.0 mm SL



G. polyophthalmus, KAUM-I. 63075, 101.1 mm SL



Family **Bothidae**

Grammatobothus polyophthalmus

(Bleeker 1865)

 Manyeyed Flounder

C ● 77–86 dorsal-fin rays ● 61–71 anal-fin rays ● 2nd to 10th dorsal-fin rays elongate, in males, not in females ● Pectoral fin elongate in males ● Eyed side pale brown, with prominent 3 large dark ocelli and numerous distinct spots

D Indo-West Pacific (India to Japan and Australia)

H Muddy and sandy bottoms in depths of 0–90 m

S 21 cm TL

(B. Jeong)

G. polyophthalmus, KAUM-I. 63076, 87.5 mm SL



G. polyophthalmus, KAUM-I. 63075, 101.1 mm SL



G. polyophthalmus, KAUM-I. 63076, 87.5 mm SL

Family Samaridae

Plagiopsetta glossa

Franz 1910

En Tongue Flatfish

C • 64–75 dorsal-fin rays • 49–55 anal-fin rays • 8–10 pectoral-fin rays (eyed side) • No pectoral fin on blind side • Middle caudal-fin rays branched • Eyed side with many dark spots, blotches, and rings

D Western Pacific (Japan to New South Wales, Australia)

H Muddy and sandy bottoms in depths of 50–200 m

S 20 cm TL

R The present specimen represents the first specimen-based record of the species from the Philippines

(B. Jeong)

*P. glossa*, KAUM-I. 52609, 81.9 mm SL

Family Samaridae

Samaris cristatus

Gray 1831

En Cockatoo Righteye Flounder

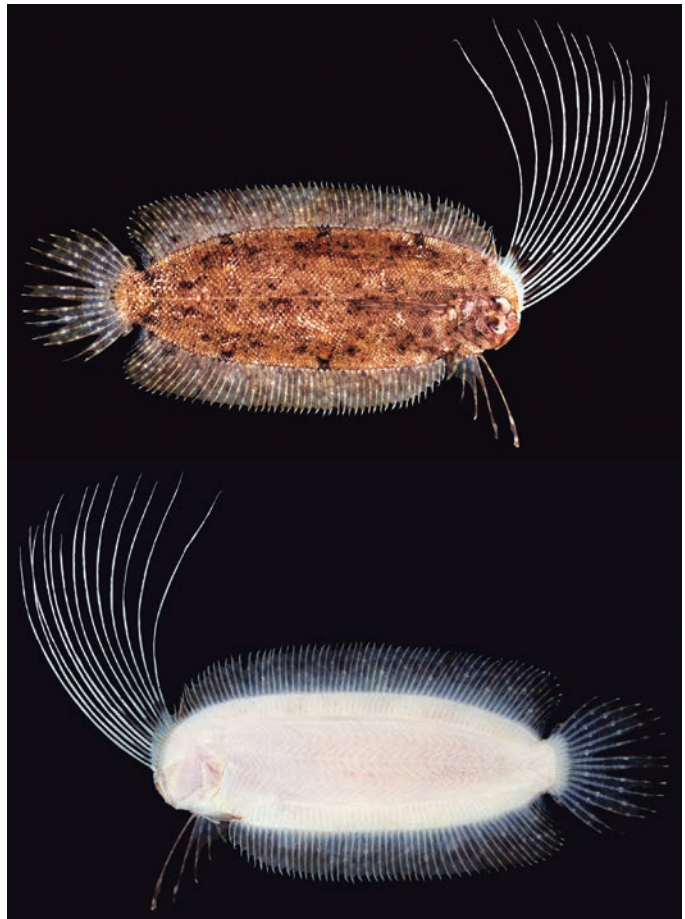
C • Anterior 12–15 dorsal-fin rays greatly elongated, white colored, remaining rays brown • Pelvic fin on eyed side elongated • Eyed side brown, with dark spots and blotches • Blind side creamy white

D Indo-West Pacific (Red Sea and east Africa to Japan, New Caledonia, and Australia)

H Muddy and silty sandy bottoms in depths of 20–114 m

S 22 cm TL

(B. Jeong)

*S. cristatus*, KAUM-I. 63067, 137.9 mm SL



A. cornuta, UPVMI 567, 136.6 mm SL

Family Soleidae

Aesopia cornuta

Kaup 1858

Unicorn Sole

C ● 69–79 dorsal-fin rays
● 59–66 anal-fin rays ● 1st dorsal-fin ray thickened ● Eyed side with 15–16 dark brown single or double cross bands continuing onto fins

D Indo-West Pacific (Red Sea and east coast of Africa to Korea and Australia)

H Muddy and sandy bottoms at depths of 8–100 m

S 27 cm TL

(B. Jeong)



A. kobensis, KAUM-I. 63042, 61.2 mm SL

Family Soleidae

Aseraggodes kobensis

(Steindachner 1896)

—

C ● 64–74 dorsal-fin rays ● 45–55 anal-fin rays ● 17–19 caudal-fin rays ● Eyes small, contiguous ● Mouth small, slightly curved ● Eyed side uniformly brown; blind side dusky brown

D Western Pacific (Korea to Gulf of Thailand)

H Muddy and sandy bottoms at depths of 80–100 m

S 12 cm TL

R The present specimen represents the first specimen-based record of the species from the Philippines

(B. Jeong)

Family Soleidae

Dexillus muelleri

(Steindachner 1879)

En Tufted Sole

C • Eyed side many irregular patches of scales with hair like sensory processes • Dorsal and anal fins completely joined to caudal fin • Pectoral fins very small

D Eastern Indian and western Pacific oceans (Sri Lanka to Philippines, Australia, and Samoa)

H Muddy and sandy bottoms on continental shelves, entering bays and estuaries

S 20 cm TL

(B. Jeong)

*D. muelleri*, UPVMI 188, 171.7 mm SL

Family Soleidae

Heteromycteris hartzfeldii

(Bleeker 1853)

En Hooknosed Sole

C • 88–101 dorsal-fin rays • 61–65 anal-fin rays • Eyed side with irregular whitish lines and spots, and 3 rows of blackish blotches or ocelli along midline, dorsal and ventral sides

D Western Pacific (Philippines, Indonesia, and Papua New Guinea)

H Muddy and sandy bottoms, sheltered bays and estuaries at depths of 2–15 m

S 24 cm TL

(B. Jeong)

*H. hartzfeldii*, UPVMI 221, 140.0 mm SL



Family Soleidae

Liachirus melanospilus

(Bleeker 1854)

 Carpet Sole

- C** • 59–62 dorsal-fin rays • 42–47 anal-fin rays • 57–65 lateral-line scales • Small cycloid scales on both sides
- Eyed side with scattered darker dots and blotches

D Indo-West Pacific (Laccadive Is. to Japan and New Guinea)

H Muddy and sandy bottoms

S 15 cm TL

(B. Jeong)

*L. melanospilus*, KAUM-I. 51670, 84.1 mm SL

Family Soleidae

Pardachirus pavoninus

(Lacepède 1802)

 Peacock Sole

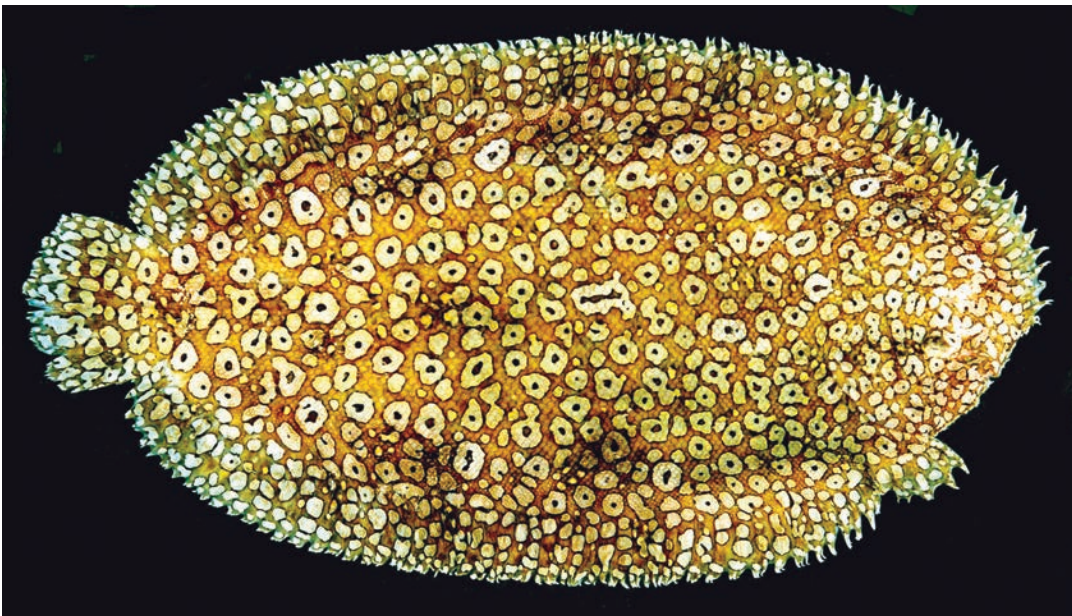
- C** • 66–70 dorsal-fin rays • 50–53 anal-fin rays • Toxin glands, visible as pores along dorsal- and anal-fin bases • Pectoral fins absent
- Eyed side with creamy white blotches or ocelli, and yellowish spots

D Eastern Indian and western Pacific oceans (Sri Lanka to Japan, Samoa, and Australia)

H Muddy and sandy bottoms of lagoon and seaward reefs at depths of 2–40 m

S 25 cm TL

(B. Jeong)

*P. pavoninus*, UPVMI 475, 169.7 mm SL

Family Soleidae

Phyllichthys sp.

En —

C • 70 dorsal-fin rays • 56 anal-fin rays • 6 pectoral-fin rays (5 rays in blind side) • 4 pelvic-fin rays (4 rays in blind side) • 14 caudal-fin rays • 100 lateral-line scales (110 scales in blind side) • Body oval • Strong ctenoid scales on eyed side, cycloid scales on blind side • Eyed side with many irregular patches of scales with hair like sensory filaments • Dorsal and anal fins completely joined to caudal fin • Pectoral fins asymmetry • Pelvic fins moderately symmetry • Eyed side brownish, with irregular blotches, and pectoral fin dark brown • Blind side creamy white, with blackish dorsal-, anal-, and caudal-fin margins

D Philippines**H** Unknown**S** 24 cm SL**R** This is most likely to be an undescribed species of the genus *Phyllichthys*

(B. Jeong)

*Phyllichthys* sp., UPVMI 186, 241.7 mm SL

Family Soleidae

Solea ovata

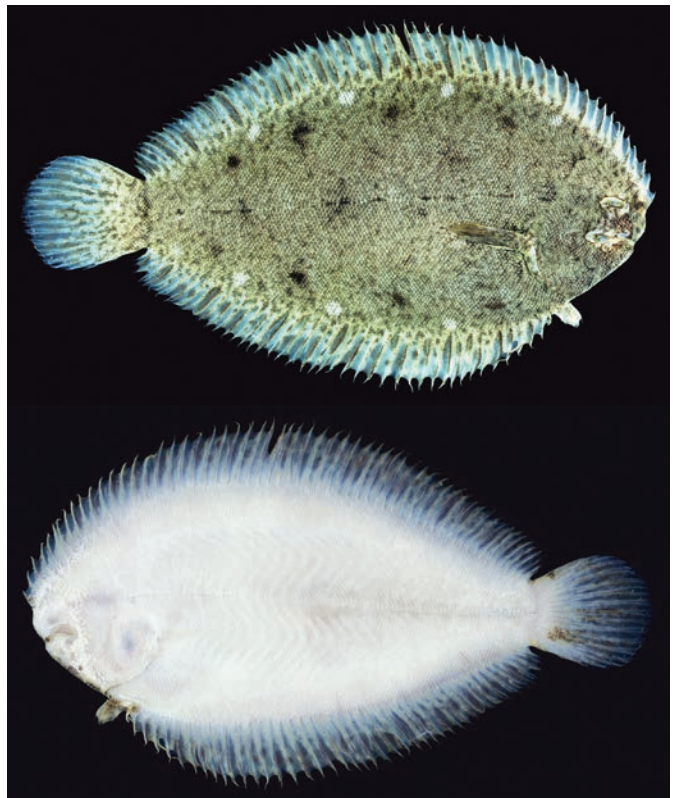
Richardson 1846

En Ovate Sole

C • 65 dorsal-fin rays • 47 anal-fin rays • Body ovate • Dorsal and anal fins separate from caudal fin • Eyed side olive brown, with white spots and black blotches

D Indo-West Pacific (Pakistan to China and New Guinea)**H** Muddy and sandy bottoms in coastal waters**S** 10 cm TL

(B. Jeong)

*S. ovata*, KAUM-I. 63077, 68.7 mm SL



Z. quagga, UPVMI 566, 118.3 mm SL

Family Soleidae

Zebrias quagga

(Kaup 1858)

En Fringefin Zebra Sole

C • 60–75 dorsal-fin rays • 50–62 anal-fin rays • Ctenoid scales on both sides • Eyed side creamy brown, with 11–12 dark brown single or double cross bands continuing onto fins

D Indo-West Pacific (Red Sea and Persian Gulf to China and Australia)

H Muddy and sandy bottoms in coastal waters

S 15 cm TL

(B. Jeong)



C. bilineatus, KAUM-I. 91776, 380.0 mm SL

Family Cynoglossidae

Cynoglossus bilineatus

(Lacepède 1802)

En Fourlined Tonguesole

C • 2 lateral lines on both side • 88–96 midlateral-line scales • 107–113 dorsal-fin rays • 80–88 anal-fin rays • Usually 12 caudal-fin rays • Ctenoid scales on eyed side, cycloid scales on blind side • Eyed side dark brown, with dark blotch on gill cover, and blind side creamy

D Indo-West Pacific (Red Sea and Persian Gulf to Japan and Australia)

H Muddy and sandy bottoms of continental shelves, including coastal areas and estuaries, at depths of 10–400 m

S 45 cm TL

(B. Jeong)

Family Cynoglossidae

Cynoglossus cynoglossus
(Hamilton 1822)

En Bengal Tonguesole

C • 2 lateral lines on eyed side, none on blind side • 70–90 midlateral-line scales • 95–102 dorsal-fin rays • 72–78 anal-fin rays • 10 caudal-fin rays • Ctenoid scales on both sides

D Indo-West Pacific (Pakistan to Philippines and Indonesia)

H Muddy and sandy bottoms in shallow areas, including brackish waters

S 20 cm TL

(B. Jeong)

*C. cynoglossus*, KAUM-I. 80819, 117.0 mm SL

Family Cynoglossidae

Cynoglossus kopsii
(Bleeker 1851)

En Shortheaded Tonguesole

C • 2 lateral lines on eyed side, none on blind side • 57–72 midlateral-line scales • 103–115 dorsal-fin rays • 80–91 anal-fin rays • 10 caudal-fin rays • Eyed side brown, with dark brown blotches and irregular transverse bands

D Indo-West Pacific (Madagascar and Persian Gulf to Taiwan and Australia)

H Muddy and sandy bottoms in depths of 24–90 m

S 19 cm TL

(B. Jeong)

*C. kopsii*, UPVMI 341, 92.8 mm SL*C. kopsii*, UPVMI 178, 104.2 mm SL*C. kopsii*, UPVMI 178, 104.2 mm SL



C. maccullochi, KAUM-I. 56094, 125.4 mm SL

Family Cynoglossidae

Cynoglossus maccullochi

Norman 1926

En McCulloch's Tonguesole

C • 2 lateral lines • 68–76 midlateral-line scales • 102–107 dorsal-fin rays • 73–83 anal-fin rays • 8 caudal-fin rays • Ctenoid scales on both sides • Eyed side brownish, with 6 or 7 dark blotches, blind side creamy brown, with blackish dorsal, anal, and caudal fins

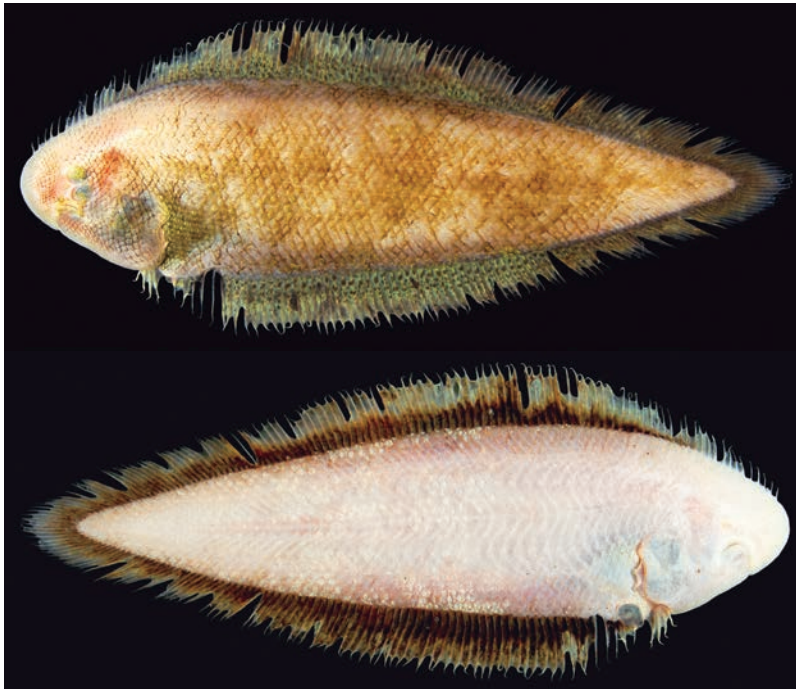
D Philippines and Australia

H Muddy and sandy bottoms in shallow waters

S 19 cm TL

R The present specimen represents the first record of the species from the Philippines

(B. Jeong)



C. ochiaii, KAUM-I. 62946, 141.6 mm SL

Family Cynoglossidae

Cynoglossus ochiaii

Yokogawa, Endo & Sakaji 2008

En —

C • 3 lateral lines on eyed side, none on blind side • 6–9 cephalodorsal line scales • 66–79 dorsolateral-line scales • 67–73 midlateral-line scales • 38–62 ventrolateral-line scales • 104–112 dorsal-fin rays • 83–88 anal-fin rays • 10 caudal-fin rays • Dorsal and anal fins with dark brown dapples

D Japan, East China Sea, and Philippines

H Muddy and sandy bottoms in depths of 46–220 m

S 20 cm TL

R The present specimen represents the first record of the species from the Philippines

(B. Jeong)

Family Triacanthidae

Pseudotriacanthus strigilifer
(Cantor 1849)

En Long-spined Tripodfish

C • 20–24 dorsal-fin soft rays
 • Pelvis distinctly tapered posteriorly • Membrane between first and second dorsal-fin spines pale black distally

D Indo-West Pacific (Gulf of Oman to Indonesia)

H Sandy bottoms in coastal waters

S 25 cm SL

R Usually taken by bottom trawl; no commercial importance

(K. Matsuura)

*P. strigilifer*, KAUM-I. 63060, 82.4 mm SL

Family Balistidae

Abalistes filamentosus
Matsuura & Yoshino 2004

En Hairfin Triggerfish

C • Upper and lower rays of caudal fin greatly produced into filaments • Caudal peduncle depressed • Body without colorful markings

D Eastern Indian and western Pacific oceans (Western Australia to Japan and New Caledonia)

H Sandy bottoms to depths exceeding 100 m

S 32 cm SL

R Distinguished from *A. stellatus* (Anonymous 1798) by filamentous caudal-fin rays

(K. Matsuura)

*A. filamentosus*, UPVMI 452, 163.6 mm SL

Family Balistidae

Abalistes stellatus
(Anonymous 1798)

En Starry Triggerfish

C • Caudal-fin rays not filamentous • Caudal peduncle depressed • Body covered with many yellow spots

D Indo-West Pacific (East Africa to Japan and Australia)

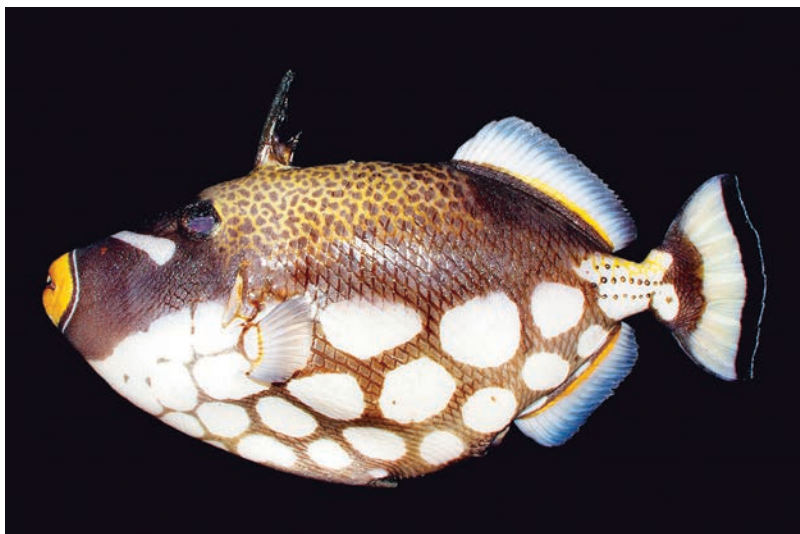
H Sandy bottoms to depths around 100 m

S 55 cm SL

R Captured by bottom trawl

(K. Matsuura)

*A. stellatus*, UPVMI 229, 317.7 mm SL



B. conspicillum, UPVMI 922, 267.7 mm SL

Family Balistidae

Balistoides conspicillum

(Bloch & Schneider 1801)

Clown Triggerfish

C • A groove in front of eye • Enlarged scales just behind gill opening • 3–4 rows of anteriorly projecting small spines on side of caudal peduncle

D Indo-West Pacific (East Africa to Japan and Samoa)

H Outer slopes of coral reefs in depths of 1–75 m

S 40 cm SL

(K. Matsuura)



C. maculata, UPVMI 911, 141.0 mm SL

Family Balistidae

Canthidermis maculata

(Bloch 1786)

Oceanic Triggerfish

C • A groove in front of eye • No enlarged scales just behind gill opening • Caudal fin round to double emarginate

D Circumglobal in warm and tropical seas

H Steep outer reef slopes in depths of 15–55 m and occasionally far out sea around floating objects

S 45 cm SL

R Occurring in aggregations (K. Matsuura)

Family Balistidae

Melichthys vidua

(Richardson 1845)

Pinktail Triggerfish

C • A groove in front of eye • Enlarged scales just behind gill opening • Posterior part of caudal fin pink • Head and body uniformly blackish brown in adults; radiating lines around eye in juveniles

D Indo-West Pacific (East Africa to Japan and Tuamotu Is.)

H Outer reef slopes in depths of 1–60 m

S 30 cm SL

(K. Matsuura)



M. vidua, KAUM-I. 52634, 86.3 mm SL

Family Balistidae

Pseudobalistes flavimarginatus
(Rüppell 1829)

En Yellowmargin Triggerfish

C • Anterior part of cheek largely naked • Enlarged scales just behind gill opening • Small spines in 5 or 6 rows on side of posterior part of body

D Indo-West Pacific (East Africa to Japan and Tuamotu Is.)

H Coral reefs in depths of 1–50 m

S 60 cm SL

R Juveniles of this species are similar to those of *B. viridescens* (Bloch & Schnedier 1801) but distinguished by lacking a black bar extending downward from a large black blotch just below the second dorsal fin

(K. Matsuura)

*P. flavimarginatus*, KAUM-I. 57191, 24.5 mm SL

Family Monacanthidae

Aluterus monoceros
(Linnaeus 1758)

En Unicorn Filefish

C • 45–51 dorsal-fin rays • 47–53 anal-fin rays • Dorsal-fin spine above eye, very long and fragile • No pelvic terminus on posterior part of abdomen

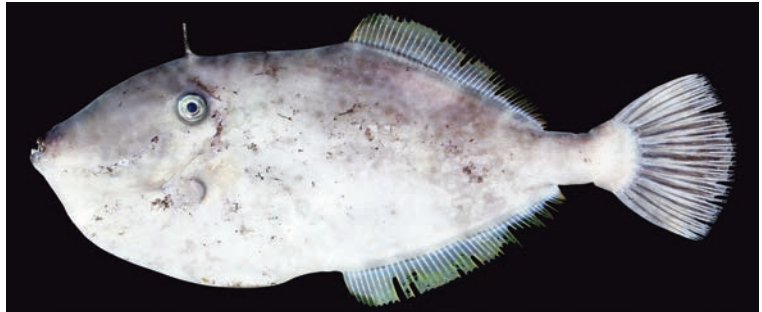
D Circumglobal in warm and tropical seas

H Sandy or muddy bottoms in coastal waters

S 70 cm SL

R Captured by bottom trawl

(K. Matsuura)

*A. monoceros*, UPVMI 1679, 181.9 mm SL

Family Monacanthidae

Aluterus scriptus
(Osbeck 1765)

En Scrawled Filefish

C • 43–49 dorsal-fin rays • 46–52 anal-fin rays • Dorsal-fin spine above eye, very long and fragile • Caudal fin longer than snout • No pelvic terminus on posterior part of abdomen

D Circumglobal in tropical seas

H Coral reefs in depths of 1–80 m

S 70 cm SL

R Intestine occasionally toxic

(K. Matsuura)

*A. monoceros*, UPVMI 1277, 183.6 mm SL*A. scriptus*, UPVMI 883, 314.2 mm SL



A. barbatus, UPVMI 1278, 152.0 mm SL

Family Monacanthidae

Anacanthus barbatus

Gray 1830

En Bearded Leatherjacket

C • 48–50 dorsal-fin rays • 58–62 anal-fin rays • A barbel on chin • Body greatly elongate, body depth at anal-fin origin 10–11 in SL • No pelvic terminus on posterior part of abdomen

D Indo-West Pacific (India to Philippines and Solomon Is.)

H Muddy bottoms of estuaries and coastal bays in depths of 2–30 m

S 25 cm SL

R Mimics mangrove shoots and seapens

(K. Matsuura)



C. fronticinctus, UPVMI 265, 46.6 mm SL

Family Monacanthidae

Cantherhines fronticinctus

(Günther 1867)

En Spectacled Filefish

C • 32–35 dorsal-fin rays • 30–32 anal-fin rays • Anterior interorbital crossed by a wide dark brown band • Pelvic terminus composed of 3 segments, not movable dorso-ventrally

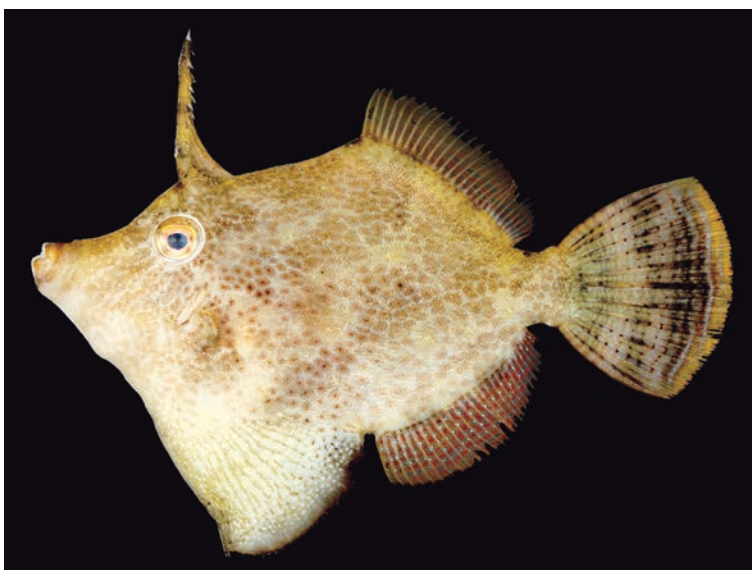
D Indo-West Pacific (East Africa to Japan and New Caledonia)

H Outer reefs in depths of 1–40 m

S 20 cm SL

R Solitary

(K. Matsuura)



M. chinensis, UPVMI 339, 73.1 mm SL

Family Monacanthidae

Monacanthus chinensis

(Osbeck 1765)

En Fanbellied Leatherjacket

C • 28–30 dorsal-fin rays • 27–30 anal-fin rays • Ventral flap greatly enlarged • Pelvic terminus composed of 3 segments, movable dorso-ventrally • Several brown stripes radiating from eye

D Eastern Indian and western Pacific oceans (Thailand to East China Sea and New Guinea)

H Seagrass beds and rocky reefs in shallow waters

S 35 cm SL

R Juveniles commonly found in seagrass beds

(K. Matsuura)

Family Monacanthidae

Paramonacanthus choirocephalus

(Bleeker 1852)

En Whiteblotch Filefish

C • 27–31 dorsal-fin rays • 28–32 anal-fin rays • Second uppermost ray of caudal fin filamentous in males • Dark brown circular to elliptical blotch on midside of body, bisected diagonally by lateral line • Pelvic terminus composed of 3 segments, movable dorso-ventrally

D Western Pacific Ocean (Philippines to Australia)

H Muddy and sandy bottoms and sheltered coastal reefs in depths of 3–25 m

S 11 cm SL

R This species is distinguished from other species of *Paramonacanthus* by having a dark brown circular to elliptical blotch on midside of body, bisected diagonally by lateral line

(K. Matsuura)

*P. choirocephalus*, UPVMI 340, 53.4 mm SL

Family Monacanthidae

Paramonacanthus curtiorhynchus

(Bleeker 1855)

En Shortsnout Filefish

C • 33–36 dorsal-fin rays • 30–32 anal-fin rays • Second uppermost ray (and occasionally middle rays) of caudal fin filamentous in males • Dark brown or black oblong blotch on middle of upper side of body below anterior part of second dorsal fin • Pelvic terminus composed of 3 segments, movable dorso-ventrally

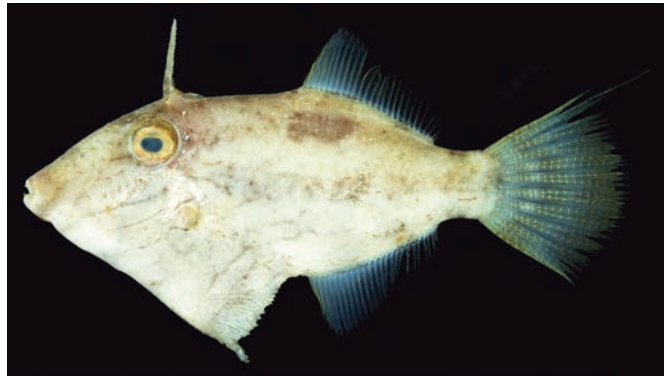
D Eastern Indian and western Pacific oceans (Bay of Bengal to Philippines and Fiji)

H Muddy and sandy bottoms and sheltered coastal reefs

S 9 cm SL

R This species has been confused with *P. oblongus* (Temminck & Schlegel 1850) distributed in Japanese waters. It differs from *P. oblongus* by lacking a longitudinal dark brown stripe on midside of body from the pectoral-fin region to the caudal peduncle

(K. Matsuura)

*P. curtiorhynchus*, UPVMI 231, 55.0 mm SL*P. pusillus*, KAUM-I. 57164, 71.8 mm SL

Family Monacanthidae

Paramonacanthus pusillus

(Rüppell 1829)

En Faintstripe Filefish

C • 25–30 dorsal-fin rays • 24–29 anal-fin rays • Uppermost and lowermost rays of caudal fin filamentous • Body grayish on dorsal half with 3–4 broad and diffused brown stripes • Pelvic terminus composed of 3 segments, movable dorso-ventrally

D Indo-West Pacific (East Africa to Japan and Australia)

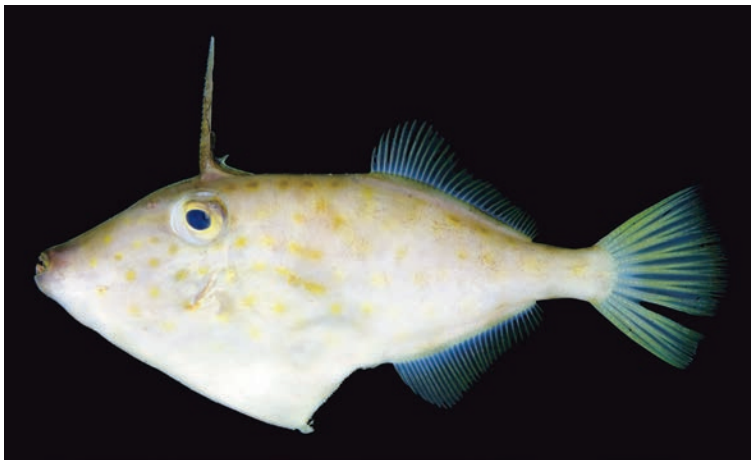
H Muddy and sandy bottoms in depths of 10–40 m

S 15 cm SL

R This species is similar to *P. lowei* Hutchins 1997 but distinguished from the latter by lacking narrow white lines

(K. Matsuura)

*P. pusillus*, KAUM-I. 80856, 78.7 mm SL



T. hypargyreus, KAUM-I. 56095, 93.6 mm SL

Family Monacanthidae

Thamnaconus hypargyreus
(Cope 1871)

En Lessor-spotted Leatherjacket

C • 32–36 dorsal-fin rays • 32–33 anal-fin rays • Dorsal-fin spine above posterior half of eye • Body grayish to light brown with many rounded yellowish brown spots • Pelvic terminus composed of 2 segments, immovable dorso-ventrally

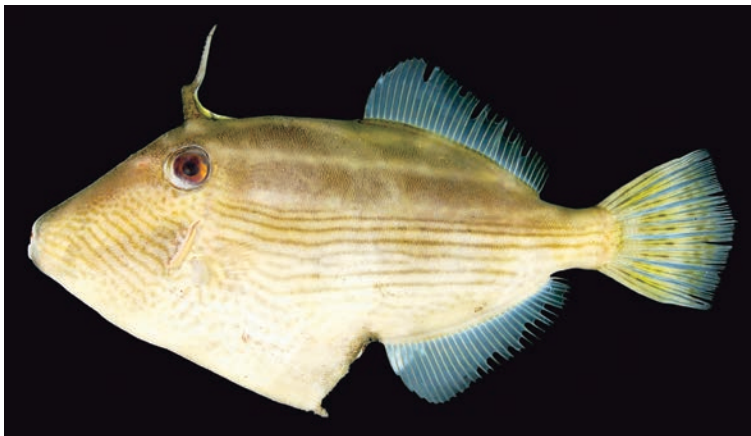
D Western Pacific Ocean (Japan to Australia)

H Usually found in depths shallower than 90 m but occasionally down to 200 m

S 20 cm SL

R Captured by bottom trawl

(K. Matsuura)



T. multilineatus, UPVMI 578, 165.2 mm SL

Family Monacanthidae

Thamnaconus multilineatus
(Tanaka 1918)

En Blackvent Filefish

C • 31–34 dorsal-fin rays • 31–34 anal-fin rays • Many longitudinal dark brown stripes on ventral half of body • Anus in a large dark brown spot • Pelvic terminus composed of 2 segments, immovable dorso-ventrally

D Western Pacific Ocean (Japan to Indonesia)

H Occurring on continental shelf

S 20 cm SL

R This species has been rarely collected. It has been classified in *Cantherhines* but the immovable pelvic terminus composed of 2 segments places this species in *Thamnaconus*

(K. Matsuura)



T. tessellatus, UPVMI 781, 220.6 mm SL

Family Monacanthidae

Thamnaconus tessellatus
(Günther 1880)

En Manyspot Leatherjacket

C • 35–38 dorsal-fin rays • 32–35 anal-fin rays • Many dark brown spots on head and body • Pelvic terminus composed of 2 segments, immovable dorso-ventrally

D Western Pacific Ocean (Japan to New Caledonia)

H Occurring on continental slopes

S 30 cm SL

(K. Matsuura)

Family Ostraciidae

Lactoria cornuta

(Linnaeus 1758)

En Longhorn Cowfish

C • A pair of sharp, strong horns about twice eye diameter in length projecting anteriorly from front of head • A second pair of horns extending posteriorly from rear corner of carapace • Caudal fin greatly elongate, one-half to two-thirds of carapace length

D Indo-Pacific (East Africa to Japan and Marquesas Is.)

H Weedy areas near coral reefs and rocks in depths of 1–50 m

S 35 cm SL

R Easily distinguished from other boxfishes by having long horns and long caudal fin

(K. Matsuura)

*L. cornuta*, UPVMI 622, 181.9 mm SL

Family Ostraciidae

Lactoria diaphana

(Bloch & Schneider 1801)

En Roundbelly Cowfish

C • A sharp spine on middle of back • A slightly upward short spine extending anteriorly from antero-dorsal edge of each eye • A short spine extending posteriorly from ventral rear corner of carapace • Ventral surface of carapace broadly rounded

D Indian and Pacific oceans (East Africa to Japan and Panama)

H Coastal and outer reefs in depths of 1–50 m

S 20 cm SL

R This species occurs in coastal waters but pelagic forms around 10 cm SL are found far from land

(K. Matsuura)

*L. diaphana*, UPVMI 454, 195.4 mm SL

Family Ostraciidae

Ostracion cubicus

Linnaeus 1758

En Yellow Boxfish

C • Carapace quadrangular in cross-section • No spines on carapace • Body with many white spots surrounded with black spots in adults • Body bright yellow with many black spots in juveniles

D Indo-Pacific (East Africa to Japan and Tuamotu Is.)

H Coastal and outer reefs, also found in lagoons, in depths of 1–35 m

S 40 cm SL

R This species is similar to a temperate species, *O. immaculatus* (Temminck & Schlegel 1850) but differs in having many white spots surrounded by black spots on the carapace

(K. Matsuura)

*O. cubicus*, UPVMI 1279, 65.0 mm SL*O. cubicus*, UPVMI 1635, 35.0 mm SL



T. reipublicae, UPVMI 455, 153.1 mm SL

Family Ostraciidae

Tetrosomus reipublicae

(Whitley 1930)

En Smallspine Turretfish

C • Carapace triangular in cross-section
• 2 small spines on middle of dorsal ridge
• 2 minute spines above dorsal edge of eye
• Vento-lateral ridge of carapace well developed

D Indo-West Pacific (East Africa to Japan and Australia)

H Sandy bottoms around depths of 3–50 m

S 40 cm SL

R This species is similar to *T. gibbosus* (Linnaeus 1758) but distinguished from the latter by having 2 spines on the back instead of a simple spine

(K. Matsuura)



A. manilensis, KAUM-I. 56041, 48.7 mm SL

Family Tetraodontidae

Arothron manilensis

(Marion de Procé 1822)

En Striped Puffer

C • 9–11 dorsal-fin rays
• 9–10 anal-fin rays
• Caudal fin moderately long, 2.2–3.2 in SL
• Body greenish to brownish gray with many longitudinal dark brown stripes
• Caudal fin edged black

D Western Pacific (Japan to Indonesia and Tonga)

H Mangroves, seagrass beds, and sand-silt bottoms near reefs

S 27 cm SL

R This species is similar to *A. immaculatus* (Bloch & Schneider 1801) but distinguished by many longitudinal dark brown stripes on the body

(K. Matsuura)



A. manilensis, KAUM-I. 62913, 34.8 mm SL

Family Tetraodontidae

Canthigaster compressa

(Marion de Procé 1822)

En Compressed Toby

C • 8–10 dorsal-fin rays
• 8–9 anal-fin rays
• Body moderately compressed laterally
• Snout long and conical
• Blue or green edged black spot at base of dorsal fin

D Western Pacific (Japan to Indonesia and Vanuatu)

H Silty bays and harbors in depths of 2–25 m

S 9 cm SL

(K. Matsuura)



C. compressa, KAUM-I. 80697, 57.7 mm SL

Family Tetraodontidae

Lagocephalus cheesemanii
(Clarke 1897)

En Cheese-man's Puffer

C • Spinules on back in a rhomboidal patch, extending from just in front of eyes posteriorly to region dorsal to posterior part of pectoral fin • Caudal fin double emarginate with middle rays posteriorly produced • Caudal fin dark brown to black with dorsal and ventral white tips

D Western Pacific (Korea to Australia and New Zealand)

H Found in depths of 1–200 m

S 40 cm SL

R This species is similar to other species of *Lagocephalus* but distinguished by the double emarginated black caudal fin with white dorsal and ventral tips

(K. Matsuura)

*L. cheesemanii*, KAUM-I. 80658, 85.0 mm SL*L. cheesemanii*, UPVMI 285, 92.7 mm SL

Family Tetraodontidae

Lagocephalus lunaris
(Bloch & Schneider 1801)

En Rough Golden Puffer

C • Spinules on back reaching to dorsal-fin origin • Caudal fin concave to lunate • Dorsal half of caudal fin dark yellow and ventral half white

D Indo-West Pacific (East Africa to Japan and Australia)

H Found on continental shelf

S 30 cm SL

R This species is strongly toxic

(K. Matsuura)

*L. lunaris*, KAUM-I. 57173, 88.7 mm SL*L. lunaris*, KAUM-I. 80784, 51.2 mm SL



L. spadiceus, KAUM-I. 80741, 178.3 mm SL



L. spadiceus, KAUM-I. 62949, 114.4 mm SL



T. brevipinnis, UPVMI 592, 150.0 mm SL



T. brevipinnis, KAUM-I. 80679, 72.8 mm SL

Family Tetraodontidae

Lagocephalus spadiceus (Richardson 1845)

En Richardson's Golden Puffer

C • Spinules on back in an elliptical patch, occasionally extending in narrow band posteriorly but never reaching to dorsal-fin origin • Caudal fin concave • Dorsal three-fourths of caudal fin dark yellow and ventral one-fourth white

D Eastern Indian and western Pacific oceans (Thailand to Japan and Australia)

H Found in coastal waters in depths of 4–190 m

S 30 cm SL

R This species is non-toxic in waters around Japan but becomes toxic in the South China Sea

(K. Matsuura)

Family Tetraodontidae

Torquigener brevipinnis (Regan 1902)

En Yellow-striped Puffer

C • 8–9 dorsal-fin rays • 7–8 anal-fin rays • Chin prominent • A ventro-lateral skin fold running from below head to caudal-fin base • 5 vertical narrow yellow bars on cheek in front of gill opening • A solid longitudinal yellow stripe running from gill opening to caudal-fin base

D Western Pacific (Japan to New Guinea)

H Coastal reefs and sandy bottoms in depths of 7–100 m

S 10 cm SL

R This species is very similar to *T. flavimaculosus* Hardy & Randall 1983 found in the western Indian Ocean including the Red Sea. It differs from *T. flavimaculosus* by having a solid stripe along the side of body instead of many small, yellowish spots

(K. Matsuura)

Family Diodontidae

Cyclichthys orbicularis

(Bloch 1785)

En Orbicular Burrfish

C • Body covered with moderately long and immovable spines • No spines on caudal peduncle • No dark or black spots on fins

D Indo-West Pacific (East Africa to Japan and New Caledonia)

H Coral and rocky reefs and sandy bottoms in depths of 5–40 m

S 14 cm SL

(K. Matsuura)

*C. orbicularis*, UPVMI 1663, 134.9 mm SL

Family Diodontidae

Cyclichthys spilostylus

Leis & Randall 1982

En Yellow-spotted Burrfish

C • Body covered with short and immovable spines • No spines on caudal peduncle • Bases of spines frequently covered yellow or dark brown spots

D Indo-West Pacific (East Africa to Japan and Australia)

H Coral and rocky reefs and weedy bottoms in depths of 3–90 m

S 25 cm SL

(K. Matsuura)

*C. orbicularis*, UPVMI 347, 50.8 mm SL

Family Diodontidae

Diodon holocanthus

Linnaeus 1758

En Freckled Porcupinefish

C • Body covered with long and movable spines • No spines on caudal peduncle • Body covered with many black spots • A brown bar from above to below eye, a broad transverse brown band on occipital region of head and another across middle of back, a large oval brown blotch above each pectoral fin, and one around dorsal-fin base • No dark brown or black spots on fins

D Indo-West Pacific (East Africa to Japan and Australia)

H Coral and rocky reefs and weedy bottoms in depths of 3–90 m

S 30 cm SL

R This species is similar to *D. liturosus* Shaw 1804 but differs by lacking a vertical dark brown bar just in front of the gill opening

(K. Matsuura)

*C. spilostylus*, UPVMI 477, 180.0 mm SL*D. holocanthus*, UPVMI 880, 193.1 mm SL

Scientific Name Index

- Abalistes filamentosus* 229
Abalistes stellatus 229
abbreviata, *Acanthocephala* 171
abbreviata, *Moringua* 27
abbreviatus, *Gonorynchus* 46
Ablennes hians 66
Abudedefduf vaigiensis 172
Acanthocephala abbreviata 171
Acanthocephala indica 171
Acanthocephala sp. 171
Acanthocybium solandri 211
Acanthopagrus pacificus 153
acanthopoma, *Eleotris* 196
Acanthosphex leuryrnini 69
Acanthuridae 205
Acanthurus mata 205
Acanthurus nigricaudus 205
Acanthurus xanthopterus 206
Acropomatidae 78
acuminatus, *Heniochus* 168
acuta, *Dussumieria* 40
adelus, *Pomacentrus* 174
aeolus, *Sillago* 160
Aesopia cornuta 222
Aethaloperca rogaa 79
affinis, *Euthynnus* 212
affinis, *Uranoscopus* 192
albacaes, *Thunnus* 215
albamarginata, *Variola* 92
albuguttata, *Parapercis* 189
albamarginata, *Gracilla* 89
albomarginata, *Jaydia* 97
Alectis ciliaris 104
Alectis indicus 104
Alepes djedaba 104
Alepes kleini 105
Alepes melanoptera 105
altipinnis, *Squalus* 22
altivelis, *Cromileptes* 83
Aluterus monoceros 231
Aluterus scriptus 231
amaena, *Myripristis* 57
Ambassidae 77
Ambassis interrupta 77
Ambassis miops 78
Ambassis nalua 78
amblycephalus, *Epinephelus* 84
amblycephalus, *Johnius* 159
Amblygaster leiogaster 39
Amblygaster sirm 40
Amioides polyacanthus 96
Amphiprion clarkii 172
Amphiprion polymnus 173
Anacanthus barbatus 232
anago, *Ariosoma* 35
anchorago, *Choerodon* 182
anea, *Pennahia* 160
Antennariidae 55
Antennarius hispidus 55
Antemariius striatus 56
Antigonia malayana 60
Antigonia rubicunda 60
Anypserodon leucogrammicus 80
Aphareus rutilans 128
Aploactinidae 69
Apogonichthyoides niger 97
Apogonidae 96
Aprion virescens 128
arafurensis, *Psenes* 178
archipelagicus, *Hemiramphus* 64
articeps, *Cheilopogon* 64
Arcyogobius baliurus 197
arenarius, *Arius* 47
areolatus, *Epinephelus* 84
argenteus, *Pomadasys* 144
argentimaculatus, *Lutjanus* 128
argus, *Cephalopholis* 80
argus, *Coelorinchus* 54
argus, *Scatophagus* 202
argyreus, *Pomadasys* 144
argyropleuron, *Plicofollis* 47
Argyrops bleekeri 153
Ariidae 47
Ariomma brevimanum 179
Ariomma indicum 179
Ariomatidae 179
Ariosoma anago 35
Ariosoma major 36
Ariosoma meeki 36
Ariosoma scheelei 37
Arius arenarius 47
Arius disper 47
armata, *Hoplobrotula* 55
Arnoglossus aspilos 219
Arothron manilensis 236
arsius, *Pseudorhombus* 216
Aseraggodes kobensis 222
asperum, *Mycotophum* 53
aspilos, *Arnoglossus* 219
Atherinidae 63
Atherinomorus duodecimalis 63
atkinsoni, *Lethrinus* 155
atridorsalis, *Champsodon* 191
Atrobuca nibe 158
Atule mate 105
auchenolepis, *Oxyurichthys* 199
aurantiacus, *Urolophus* 25
aureus, *Glossogobius* 198
aurora, *Nemipterus* 145
australasicus, *Scomber* 214
Auxis rochei rochei 211
Auxis thazard 211
Awaous melanocephalus 197
Awaous ocellaris 197
bagio, *Muraenesox* 38
bajad, *Carangoides* 107
balinensoides, *Nemipterus* 145
Balistidae 229
Balistoides conspicillum 230
baliurus, *Arcyogobius* 197
balteatus, *Dipterygonotus* 138
barbatus, *Anacanthus* 232
barberinus, *Parupeneus* 161
baronessa, *Chaetodon* 167
batavianus, *Platax* 201
bathybius, *Nemipterus* 145
Belonidae 66
bengalensis, *Lutjanus* 129
bengalensis, *Rexea* 210
Berycidae 57
berycoides, *Doederleinia* 78
bicinctus, *Uranoscopus* 192
bicoloripes, *Parapercis* 189
bifasciatum, *Diplorion* 84
bifasciatus, *Pentapodus* 150
bilineatus, *Cynoglossus* 226
bilineatus, *Grammatocorynus* 212
bindus, *Photopectoralis* 125
bipinnulata, *Elagatis* 115
bleekeri, *Argyrops* 153
bleekeri, *Chlorurus* 186
Blenniidae 192
blochii, *Priacanthus* 94
Bodianus loxozonus 181
boenak, *Cephalopholis* 80
bohar, *Lutjanus* 129
bombylios, *Egglestonichthys* 198
boops, *Selar* 118
borneensis, *Johnius* 159
borneensis, *Rhinobatos* 24
boro, *Pisodonophis* 33
Bothidae 219
brachysoma, *Rastrelliger* 213
Brama dussumieri 125
Brama orcini 126
Brama pauciradiata 126
Bramidae 125
Bregmaceros sp. 1 54
Bregmaceros sp. 2 54
Bregmacerotidae 54
brevimanum, *Ariomma* 179
brevipinnis, *Torquigener* 238
brevirostris, *Squalus* 23
buengeri, *Glaucosoma* 166
buengeri, *Halaelurus* 20
Butidae 195
Butis humeralis 195
Butis koilomatodon 196
caerulaurea, *Caesio* 137
Caesio caerulaurea 137
Caesio cuning 138
Caesionidae 137
calcarifer, *Lates* 77
Callionymidae 193
Callionymus guentheri 193
Callionymus japonicus 193
Callionymus meridionalis 194
Callionymus platycephalus 194
Callionymus schaapi 195
canadum, *Rachycentron* 102
cancrivorus, *Pisodonophis* 34
caninoides, *Oplopomus* 199
canius, *Plotosus* 48
Cantherhines fronticinctus 232
Canthidermis maculata 230
Canthigaster compressa 236
Caproidae 60
Carangichthys dinema 106
Carangichthys oblongus 106
Carangidae 104
Carangoides bajad 107
Carangoides coeruleopinnatus 107
Carangoides ferdau 108
Carangoides fulvoguttatus 108
Carangoides gymmostethus 109
Carangoides hedlandensis 109
Carangoides plagiotaenia 110
Carangoides praeustus 110
Caranx heberi 111
Caranx ignobilis 111
Caranx melanopygus 111
Caranx papuensis 112
Caranx sexfasciatus 112
Caranx tille 113
Carapidae 55
Carcharhinidae 21
Carcharhinus maclooti 21
Carcharhinus melanopterus 21
caronotatus, *Lutjanus* 129
cavitensis, *Ostorhinchus* 99
Centriscidae 61
Centriscus scutatus 61
Centroberyx druzhinini 57
Cephalopholis argus 80
Cephalopholis boenak 80
Cephalopholis cyanostigma 81
Cephalopholis igarashiensis 81
Cephalopholis miniata 81
Cephalopholis sexmaculata 82
Cephalopholis sonnerati 82
Cephalopholis urodeta 82
Cepola schlegelii 172
Cepolidae 171
Cetoscarus ocellatus 186
Chaetodon baronessa 167
Chaetodon guentheri 167
Chaetodon kleinii 167
Chaetodon vagabundus 168
chaetodonoides, *Plectorhinchus* 143
Chaetodontidae 167
Champsodon atridorsalis 191
Champsodon cf. vorax 191
Champsodon nudivittus 191
Champsodontidae 191
Chanidae 46
Chama striata 216
Channidae 216
Chanos chanos 46
chanos, *Chanos* 46
cheesemani, *Lagocephalus* 237
Cheilinus chlorourus 181
Cheilopogon articeps 64
Cheilopogon furcatus 65
Cheilopogon katoptron 65
Chelidoperca hirundinacea 83
Chelidoperca santosi 83
Chelon melinopterus 61
Chelon subviridis 62
Chimaeridae 19
chinensis, *Ctenotrypauchen* 200
chinensis, *Monacanthus* 232
Chirocentridae 46
Chirocentrus dorab 46
chlorourus, *Cheilinus* 181
Chlorurus bleekeri 186
Chlorurus japonensis 186
Choerodon anchorago 182
Choerodon margaritifera 182
Choerodon oligacanthus 182
Choerodon schoenleinii 183
choitrocephalus, *Paramonacanthus* 233
Chromis mirationis 173
chryseres, *Myripristis* 57
chrysoleuron, *Parupeneus* 161
chrysorhynchus, *Diaphus* 52
chrysoaenia, *Plectorhinchus* 143
chrysozonus, *Coradion* 168
ciliaris, *Alectis* 104
cinerascens, *Kyphosus* 176
cinerus, *Muraenesox* 39
clarkii, *Amphiprion* 172
Clupeidae 39

<i>Coelorinchus argus</i>	54	<i>Dexillus muelleri</i>	223	<i>equulus, Leiognathus</i>	124	<i>griseus, Gymnocranius</i>	154
<i>Coelorinchus macrorhynchus</i>	54	<i>Diagramma picta picta</i>	142	<i>erionna, Parascopopsis</i>	148	<i>guentheri, Callionymus</i>	193
<i>coeruleopinnatus, Carangoides</i>	107	<i>diaphana, Lactoria</i>	235	<i>erumei, Psetodes</i>	216	<i>guentheri, Chaetodon</i>	167
<i>coioides, Epinephelus</i>	85	<i>Diaphus chrysorhynchus</i>	52	<i>erythracanthus, Lethrinus</i>	155	<i>gushikeni, Ryukyupercis</i>	190
<i>commerson, Scomberomorus</i>	215	<i>Diaphus fragilis</i>	52	<i>erythrourus, Gerres</i>	140	<i>guttatus, Siganus</i>	202
<i>commersonianus, Scomberoides</i>	116	<i>digramma, Pterocaesio</i>	138	<i>Escualosa thoracata</i>	40	<i>guttatus, Upeneus</i>	162
<i>commersonii, Fistularia</i>	60	<i>dimidiatus, Scarus</i>	187	<i>Eubleekeria jonesi</i>	123	<i>Gymnocranius elongatus</i>	153
<i>compressa, Canthigaster</i>	236	<i>diema, Carangichthys</i>	106	<i>Eubleekeria splendens</i>	123	<i>Gymnocranius grandoculis</i>	154
Congridae	35	<i>Diodon holocanthus</i>	239	<i>Euleptorhamphus viridis</i>	63	<i>Gymnocranius griseus</i>	154
<i>conspicillum, Balistoides</i>	230	Diodontidae	239	<i>Euthynnus affinis</i>	212	<i>gymnoethus, Carangoides</i>	109
<i>convexus convexus, Oxyporhamphus</i>	66	<i>Diploprion bifasciatum</i>	84	<i>evermanni, Symbolophorus</i>	53	<i>Gymnothorax fimbriatus</i>	29
<i>Cookeulus japonicus</i>	94	<i>diplophilus, Parapercis</i>	189	Exocoetidae	64	<i>Gymnothorax pseudothyrsoides</i>	29
<i>Coradion chrysozonus</i>	168	<i>Dipterygonotus balteatus</i>	138	<i>faber, Zeus</i>	59	<i>Gymnothorax sp.</i>	30
<i>corallicola, Epinephelus</i>	85	<i>disper, Arius</i>	47	<i>fageni, Naso</i>	206	Haemulidae	142
<i>cordyla, Megalaspis</i>	116	<i>diplosionotus, Herklotsichthys</i>	41	<i>far, Hemiramphus</i>	64	<i>Halaelurus buergeri</i>	20
<i>cornuta, Aesopia</i>	222	<i>djedaba, Alepes</i>	104	<i>fasciatus, Epinephelus</i>	86	<i>Halichoeres hartzfeldii</i>	183
<i>cornuta, Lactoria</i>	235	<i>Doerderleinia berycoides</i>	78	<i>fasciatus, Ostorhinchus</i>	99	<i>Halietaua stellata</i>	56
<i>cornutus, Zanclus</i>	204	<i>dorab, Chirocentrus</i>	46	<i>faughni, Rastrelliger</i>	213	<i>hamrur, Priacanthus</i>	95
<i>Coryphaena equiselis</i>	103	<i>Drepane punctata</i>	166	<i>ferdau, Carangoides</i>	108	Hapalogenyidae	142
<i>Coryphaena hippurus</i>	103	Drepaneidae	166	<i>ferruginea, Moringua</i>	27	<i>Hapalogenys kishinouyei</i>	142
Coryphaenidae	103	<i>druzhinini, Centroberyx</i>	57	<i>Fibramia lateralis</i>	97	<i>harak, Lethrinus</i>	156
<i>cristatus, Samaris</i>	221	<i>duodecimalis, Atherinomorus</i>	63	<i>filamentosus, Abalistes</i>	229	<i>hartzfeldii, Halichoeres</i>	183
<i>cristatus, Tentoriceps</i>	210	<i>dupliciocellatus, Pseudorhombus</i>	217	<i>filamentosus, Gerres</i>	140	<i>hartzfeldii, Heteromycteris</i>	223
<i>Cromileptes altivelis</i>	83	<i>dussumieri, Brama</i>	125	<i>filamentosus, Pristipomoides</i>	136	<i>hawaiiensis, Elops</i>	27
<i>cruentatus, Heteropriacanthus</i>	94	<i>Dussumieria acuta</i>	40	<i>Filimanus sealei</i>	180	<i>heberi, Caranx</i>	111
<i>crumenophthalmus, Selar</i>	118	<i>Dussumieria elopsoidea</i>	40	<i>fimbriatus, Gymnothorax</i>	29	<i>hedlandensis, Carangoides</i>	109
<i>Ctenochaetus striatus</i>	206	Echeneidae	102	<i>Fistularia commersonii</i>	60	<i>helvola, Uraspis</i>	120
<i>Ctenotrypauchen chinensis</i>	200	<i>Echeneis naucrates</i>	102	<i>Fistularia petimba</i>	61	Hemiramphidae	63
<i>Cubiceps pauciradiatus</i>	177	<i>Egglestonichthys bombylios</i>	198	Fistularidae	60	<i>Hemiramphus archipelagicus</i>	64
<i>Cubiceps whiteleggii</i>	178	<i>Elagatis bipinnulata</i>	115	<i>flavimarginatus, Pseudobalistes</i>	231	<i>Hemiramphus far</i>	64
<i>cubicus, Ostracion</i>	235	<i>Elates ransonnetii</i>	72	<i>flavobrunneum, Lepidocybium</i>	209	<i>Hemiramphus lutkei</i>	64
<i>cuneatus, Pomacentrus</i>	174	Eleotridae	196	<i>forsteri, Sphyaena</i>	208	<i>Heniochus acuminatus</i>	168
<i>cuning, Caesio</i>	138	<i>Eleotris acanthopoma</i>	196	<i>fragilis, Diaphus</i>	52	<i>heniochus, Epinephelus</i>	86
<i>curtorhynchus, Paramonacanthus</i>	233	<i>Eleutheronema tetradactylum</i>	180	<i>frontinctus, Cantherhines</i>	232	<i>heptacanthus, Parupeneus</i>	161
<i>cuvier, Galeocerdo</i>	22	<i>Ellochelon vaigiensis</i>	62	<i>fucata, Taeniamia</i>	101	<i>Herklotsichthys dispilonotus</i>	41
<i>cyanophrys, Psenes</i>	179	<i>elongata, Siphamia</i>	101	<i>fulviflamma, Lutjanus</i>	130	<i>Herklotsichthys quadrimaculatus</i>	41
<i>cyanostigma, Cephalopholis</i>	81	<i>elongatus, Gymnocranius</i>	153	<i>fulvoguttatus, Carangoides</i>	108	Heterodontidae	19
<i>Cyclichthys orbicularis</i>	239	Elopidae	27	<i>fulvus, Lutjanus</i>	130	<i>Heterodontus zebra</i>	19
<i>Cyclichthys spilostylus</i>	239	<i>Elops hawaiiensis</i>	27	<i>furcatus, Cheilopogon</i>	65	<i>heteroloba, Encrasicholina</i>	43
<i>Cymbacephalus nematophthalmus</i>	72	<i>elopsoidea, Dussumieria</i>	40	<i>furcosus, Nemipterus</i>	146	<i>Heteromycteris hartzfeldii</i>	223
Cynoglossidae	226	Emmelichthyidae	128	<i>fuscescens, Siganus</i>	202	<i>Heteropriacanthus cruentatus</i>	94
<i>Cynoglossus bilineatus</i>	226	<i>Emmelichthys struhsakeri</i>	128	<i>Galeocerdo cuvier</i>	22	<i>hexagona, Myripristis</i>	58
<i>Cynoglossus cynoglossus</i>	227	<i>Encheliophis homei</i>	55	<i>Gazza minuta</i>	124	<i>hexodon, Nemipterus</i>	146
<i>Cynoglossus kopsii</i>	227	<i>Encrasicholina heteroloba</i>	43	Gempylidae	209	<i>hians, Ablennes</i>	66
<i>Cynoglossus maccullochi</i>	228	<i>Encrasicholina pseudoheteroloba</i>	43	<i>Gempylus serpens</i>	209	<i>Himantura uarnak</i>	25
<i>Cynoglossus ochiaii</i>	228	<i>Encrasicholina punctifer</i>	44	<i>Genicanthus lamarck</i>	170	<i>hime, Lepidotrigla</i>	70
<i>cynoglossus, Cynoglossus</i>	227	Engraulidae	43	<i>genivittatus, Lethrinus</i>	155	<i>hippurus, Coryphaena</i>	103
<i>cyprinoides, Megalops</i>	27	<i>Engraulis japonica</i>	44	Gerreidae	140	<i>Hirundichthys oxycephalus</i>	66
<i>Cypselurus longibarbus</i>	65	<i>Engyproson grandisquama</i>	219	<i>Gerres erythrourus</i>	140	<i>hirundinacea, Chelidoperca</i>	83
<i>Cypselurus naresii</i>	65	<i>entaxis, Neosebastes</i>	67	<i>Gerres filamentosus</i>	140	<i>hispidus, Antennarius</i>	55
<i>cypselurus, Verulux</i>	101	Ephippidae	201	<i>Gerres macracanthus</i>	140	<i>Histioporus typus</i>	170
<i>Dactyloptena macracantha</i>	75	<i>Epinephelus amblycephalus</i>	84	<i>Gerres oyena</i>	141	<i>Histrio histrio</i>	56
<i>Dactyloptena orientalis</i>	75	<i>Epinephelus areolatus</i>	84	<i>Gerres shima</i>	141	<i>histrio, Histrio</i>	56
<i>Dactyloptena peterseni</i>	76	<i>Epinephelus coioides</i>	85	<i>ghobban, Scarus</i>	187	<i>holocanthus, Diodon</i>	239
<i>Dactyloptena tiltoni</i>	76	<i>Epinephelus corallicola</i>	85	<i>gibbosa, Sardinella</i>	41	Holocentridae	57
Dactylopteridae	75	<i>Epinephelus epistictus</i>	85	<i>gibbosus, Plectorhinchus</i>	143	<i>homei, Encheliophis</i>	55
<i>Dactylopus dactylopus</i>	195	<i>Epinephelus fasciatus</i>	86	<i>gibbus, Lutjanus</i>	131	<i>hongkongiensis, Opistognathus</i>	93
<i>dactylopus, Dactylopus</i>	195	<i>Epinephelus heniochus</i>	86	<i>Glaucosoma buergeri</i>	166	<i>Hoplobrotula armata</i>	55
Dasyatiidae	25	<i>Epinephelus latifasciatus</i>	86	Glaucosomatidae	166	<i>Hoplolatilus randalli</i>	102
<i>dea, Iniistius</i>	184	<i>Epinephelus merra</i>	87	<i>glossa, Plagiopsetta</i>	221	<i>Hoplostethus metallicus</i>	59
<i>Decapterus kurroides</i>	113	<i>Epinephelus morrhua</i>	87	<i>Glossogobius aureus</i>	198	<i>humeralis, Butis</i>	195
<i>Decapterus macarellus</i>	113	<i>Epinephelus ongus</i>	87	<i>Gnathanodon speciosus</i>	115	<i>Hydrolagus purpureus</i>	19
<i>Decapterus macrosoma</i>	114	<i>Epinephelus polyphkadion</i>	88	Gobiidae	197	<i>hypargyreus, Thamnaconus</i>	234
<i>Decapterus russelli</i>	114	<i>Epinephelus quoyanus</i>	88	Gonorynchidae	46	<i>Hypoatherina temminckii</i>	63
<i>decussatus, Lutjanus</i>	130	<i>Epinephelus radiatus</i>	88	<i>Gonorynchus abbreviatus</i>	46	<i>igarashiensis, Cephalopholis</i>	81
<i>delicatulus, Spratelloides</i>	42	<i>Epinephelus sexfasciatus</i>	89	<i>gracilis, Spratelloides</i>	43	<i>ignobilis, Caranx</i>	111
<i>Dendrophysa russelii</i>	159	<i>Epinephelus undulosus</i>	89	<i>Gracilla albomarginata</i>	89	<i>imperator, Pomacentrus</i>	170
<i>Deveximentum indicium</i>	121	<i>epistictus, Epinephelus</i>	85	<i>Grammatobothus polyophthalmus</i>	220	<i>incisa, Strongylura</i>	66
<i>Deveximentum insidiator</i>	122	<i>equiselis, Coryphaena</i>	103	<i>Grammatorcynus bilineatus</i>	212	<i>indica, Acanthocephala</i>	171
<i>Deveximentum megalolepis</i>	122	<i>Equalites laterofenestra</i>	122	<i>grandisquama, Engyproson</i>	219	<i>indicium, Deveximentum</i>	121
		<i>Equalites oblongus</i>	123	<i>grandoculis, Gymnocranius</i>	154	<i>indicium, Ariomma</i>	179

<i>indicus, Alectis</i>	104	<i>Lepidocybium flavobrunneum</i>	209	<i>Mahidolia mystacina</i>	198	<i>Myripristis chryseres</i>	57
<i>indicus, Parupeneus</i>	162	<i>Lepidotrigla hime</i>	70	<i>major, Ariosoma</i>	36	<i>Myripristis hexagona</i>	58
<i>indicus, Platycephalus</i>	73	<i>Lepidotrigla sp.</i>	70	<i>malabaricus, Lutjanus</i>	132	<i>mystacina, Mahidolia</i>	198
<i>indicus, Stolephorus</i>	44	<i>Leptojulius lambda stigma</i>	185	Malacanthidae	102	<i>nagasakiensis, Pentapodus</i>	150
<i>Inegocia japonica</i>	72	<i>leptolepis, Selaroides</i>	118	<i>malayana, Antigonina</i>	162	<i>nalu, Ambassis</i>	78
<i>inermis, Parasclopsis</i>	149	<i>lepturus, Trichiurus</i>	210	<i>malayanus, Pseudorhombus</i>	218	<i>naresii, Cypselurus</i>	65
<i>Iniiistius dea</i>	184	<i>lepturus, Uroconger</i>	38	<i>manazo, Mustelus</i>	20	<i>Naso fageni</i>	206
<i>Iniiistius sp.</i>	184	<i>Lestolepis japonica</i>	51	<i>manilensis, Arothron</i>	236	<i>Naso sp. 1</i>	207
<i>Inimicus sinensis</i>	69	Lethrinidae	153	<i>margalitifer, Scolopsis</i>	151	<i>Naso sp. 2</i>	207
<i>insidiator, Deveximentum</i>	122	<i>Lethrinus atkinsoni</i>	155	<i>margaritiferus, Choerodon</i>	182	<i>Naso sp. 3</i>	207
<i>intermedia, Trypauchenopsis</i>	200	<i>Lethrinus erythracanthus</i>	155	<i>marmorata, Oxyeleotris</i>	196	<i>Naso tergus</i>	207
<i>interrupta, Ambassis</i>	77	<i>Lethrinus genivittatus</i>	155	<i>mata, Acanthurus</i>	205	<i>naurates, Echeneis</i>	102
<i>isarankurui, Saurida</i>	48	<i>Lethrinus harak</i>	156	<i>mate, Atule</i>	105	<i>nebulosa, Saurida</i>	49
<i>japanensis, Chlorurus</i>	186	<i>Lethrinus lentjan</i>	156	<i>meeki, Ariosoma</i>	36	<i>nebulosus, Lethrinus</i>	156
<i>japonica, Engraulis</i>	44	<i>Lethrinus microdon</i>	156	<i>Megalaspis cordyla</i>	116	<i>nebulosus, Yongeichthys</i>	200
<i>japonica, Inegocia</i>	72	<i>Lethrinus nebulosus</i>	156	<i>megalolepis, Deveximentum</i>	122	<i>Neenchelys parvipectoralis</i>	32
<i>japonica, Lestolepis</i>	51	<i>Lethrinus obsoletus</i>	157	Megalopidae	27	<i>neglecta, Scorpaenopsis</i>	68
<i>japonicus, Callionymus</i>	193	<i>Lethrinus olivaceus</i>	157	<i>Megalops cyprinoides</i>	27	<i>nematophorus, Nemipterus</i>	147
<i>japonicus, Cookeolus</i>	94	<i>Lethrinus ornatus</i>	157	<i>melanocephalus, Awaous</i>	197	<i>nematophthalmus, Cymbacephalus</i>	72
<i>japonicus, Nemipterus</i>	146	<i>Lethrinus rubrioperculatus</i>	158	<i>melanoptera, Alepes</i>	105	<i>nematopus, Nemipterus</i>	147
<i>japonicus, Ostichthys</i>	58	<i>leucogrammicus, Anyperodon</i>	80	<i>melanopterus, Carcharhinus</i>	21	Nemipteridae	145
<i>japonicus, Synagrops</i>	79	<i>leuryntis, Acanthosphex</i>	69	<i>melanopygus, Caranx</i>	111	<i>Nemipterus aurora</i>	145
<i>japonicus, Upeneus</i>	162	<i>lewisi, Pinjalo</i>	135	<i>melanospilus, Liachirus</i>	224	<i>Nemipterus balinensoides</i>	145
<i>jarbua, Terapon</i>	176	<i>Liachirus melanospilus</i>	224	<i>Melichthys vidua</i>	230	<i>Nemipterus bathybius</i>	145
<i>javanicus, Pseudorhombus</i>	217	<i>lineatus, Plotosus</i>	48	<i>melinopterus, Chelon</i>	61	<i>Nemipterus fuscus</i>	146
<i>Jaydia albomarginata</i>	97	<i>Lobotes surinamensis</i>	139	<i>Mene maculate</i>	103	<i>Nemipterus hexodon</i>	146
<i>Jaydia poecilopterus</i>	98	Lobotidae	139	Memidae	103	<i>Nemipterus japonicus</i>	146
<i>Jaydia smithi</i>	98	<i>longibarbus, Cypselurus</i>	65	<i>mentalis, Ulua</i>	120	<i>Nemipterus nematophorus</i>	147
<i>Jaydia striatodes</i>	98	<i>longiceps, Sardinella cf.</i>	42	<i>meridionalis, Callionymus</i>	194	<i>Nemipterus nematopus</i>	147
<i>Jaydia truncatus</i>	99	<i>longimanus, Pentaprion</i>	141	<i>merra, Epinephelus</i>	87	<i>Nemipterus zysron</i>	147
<i>jello, Sphyræna</i>	208	<i>longispinis, Paracentropogon</i>	69	<i>metallicus, Hoplostethus</i>	59	<i>Neosebastes extaxis</i>	67
<i>johnii, Lutjanus</i>	131	<i>loxozonos, Bodianus</i>	181	<i>microcephalus, Paratrypauchen</i>	200	Neosebastidae	67
<i>Johnius amblycephalus</i>	159	<i>lunaris, Lagocephalus</i>	237	<i>microchir, Moringua</i>	28	<i>Neotrygon orientalis</i>	26
<i>Johnius borneensis</i>	159	Lutjanidae	128	<i>microdon, Lethrinus</i>	156	<i>nibe, Atrubucca</i>	158
<i>jonesi, Eubleekeria</i>	123	<i>Lutjanus argentimaculatus</i>	128	<i>microstomus, Polydactylus</i>	180	<i>Nibeæ semifasciata</i>	159
<i>kanagurta, Rastrelliger</i>	214	<i>Lutjanus bengalensis</i>	129	<i>miniata, Cephalopholis</i>	81	<i>niger, Apogonichthyoides</i>	97
<i>katayamai, Symphysanodon</i>	93	<i>Lutjanus bohar</i>	129	<i>minuta, Gazza</i>	124	<i>niger, Parastromateus</i>	116
<i>katoptron, Cheilopogon</i>	65	<i>Lutjanus carponotatus</i>	129	<i>miops, Ambassis</i>	78	<i>niger, Scarus</i>	188
<i>Katsuwonus pelamis</i>	212	<i>Lutjanus decussatus</i>	130	<i>mirationis, Chromis</i>	173	<i>nigricaudus, Acanthurus</i>	205
<i>kishinouyei, Hapalogenys</i>	142	<i>Lutjanus fulviflamma</i>	130	<i>misolensis, Yirrikala</i>	35	<i>nigrocincta, Ostorhinchus</i>	100
<i>kleini, Alepes</i>	105	<i>Lutjanus fulvus</i>	130	<i>mizenkoi, Lutjanus</i>	132	<i>nigrofasciata, Seriolina</i>	119
<i>kleinii, Chaetodon</i>	167	<i>Lutjanus gibbus</i>	131	<i>moluccensis, Upeneus</i>	163	<i>niphonia, Pristigenys</i>	96
<i>kobensis, Aseraggodes</i>	222	<i>Lutjanus johnii</i>	131	Monacanthidae	231	Nomeidae	177
<i>koilomatodon, Butis</i>	196	<i>Lutjanus lutjanus</i>	131	<i>Monacanthus chinensis</i>	232	<i>Novaculops sp.</i>	185
<i>koppii, Cynoglossus</i>	227	<i>Lutjanus malabaricus</i>	132	<i>monoceros, Aluterus</i>	231	<i>nudivittus, Champsodon</i>	191
<i>kurroides, Decapterus</i>	113	<i>Lutjanus mizenkoi</i>	132	<i>monogramma, Scolopsis</i>	151	<i>oblongus, Carangichthys</i>	106
<i>kusakarii, Paracassio</i>	134	<i>Lutjanus monostigma</i>	132	<i>monostigma, Lutjanus</i>	132	<i>oblongus, Equulites</i>	123
Kyphosidae	176	<i>Lutjanus quinquelineatus</i>	133	<i>Moolgarda perusii</i>	62	<i>obsoletus, Lethrinus</i>	157
<i>Kyphosus cinerascens</i>	176	<i>Lutjanus rivulatus</i>	133	<i>Moringua abbreviata</i>	27	<i>obtusata, Sphyræna</i>	208
<i>Kyphosus vaigiensis</i>	177	<i>Lutjanus russellii</i>	133	<i>Moringua ferruginea</i>	27	<i>obtusirostris, Pristotis</i>	174
Labridae	181	<i>Lutjanus sebae</i>	134	<i>Moringua microchir</i>	28	<i>ocellaris, Awaous</i>	197
<i>Lactoria cornuta</i>	235	<i>Lutjanus vitta</i>	134	<i>Moringua sp.</i>	28	<i>ocellatus, Cetoscarus</i>	186
<i>Lactoria diaphana</i>	235	<i>lutjanus, Lutjanus</i>	131	Moringuidae	27	<i>ocellatus, Parachaetodon</i>	169
<i>laevis, Plectropomus</i>	90	<i>lutkei, Hemiramphus</i>	64	<i>morrhua, Epinephelus</i>	87	<i>ochiaii, Cynoglossus</i>	228
<i>Lagocephalus cheesemani</i>	237	<i>lymma, Taeniura</i>	26	<i>muelleri, Dexillus</i>	223	<i>oculus, Synodus</i>	50
<i>Lagocephalus lunaris</i>	237	<i>macarellus, Decapterus</i>	113	Mugilidae	61	<i>Odontanthias unimaculatus</i>	90
<i>Lagocephalus spadiceus</i>	238	<i>maccullochi, Cynoglossus</i>	228	Mullidae	161	Ogocephalidae	56
<i>lamarek, Genicanthus</i>	170	<i>macloti, Carcharhinus</i>	21	<i>multidens, Pristipomoides</i>	136	<i>Okeameji sp.</i>	24
<i>lambda stigma, Leptojulius</i>	185	<i>macracantha, Dactyloptena</i>	75	<i>multifasciatus, Parupeneus</i>	162	<i>oligacanthus, Choerodon</i>	182
<i>lanæ, Pristiophorus</i>	23	<i>macracanthus, Gerres</i>	140	<i>multilineatus, Thamnaconus</i>	234	<i>oligacanthus, Plectropomus</i>	92
<i>lateralis, Fibramia</i>	97	<i>macracanthus, Priacanthus</i>	95	Muraenesocidae	38	<i>oligodon, Pseudorhombus</i>	218
<i>laterofenestra, Equulites</i>	122	<i>macracanthus, Suggrundus</i>	74	<i>Muraenesox bagio</i>	38	<i>olivaceus, Lethrinus</i>	157
<i>Lates calcarifer</i>	77	<i>macrocephala, Onigocia</i>	73	<i>Muraenesox cinereus</i>	39	<i>ongus, Epinephelus</i>	87
<i>laticeps, Satyrichthys</i>	77	<i>macrops, Synodus</i>	50	<i>Muraenichthys thompsoni</i>	31	<i>Onigocia macrocephala</i>	73
Latidae	71	<i>macrorhynchus, Coelorinchus</i>	54	Muraenidae	29	Ophichthidae	31
<i>latifasciatus, Epinephelus</i>	86	<i>macrosoma, Decapterus</i>	114	<i>muraenolepis, Ophidion</i>	55	<i>Ophichthys sp.</i>	33
<i>leiogaster, Amblygaster</i>	39	Macrouridae	54	<i>muronis, Paraperis</i>	189	Ophidiidae	55
Leiognathidae	121	<i>maculata, Canthidermis</i>	230	<i>Mustelus manazo</i>	20	<i>Ophidion muraenolepis</i>	55
<i>Leiognathus equulus</i>	124	<i>maculate, Mene</i>	103	Myctophidae	52	Opistognathidae	93
<i>lentjan, Lethrinus</i>	156	<i>maculatus, Plectropomus</i>	91	<i>Myctophum asperum</i>	53	<i>Opistognathus hongkongiensis</i>	93
<i>leopardus, Plectropomus</i>	91	<i>maculatus, Pomadasys</i>	144	<i>Myripristis amaena</i>	57	<i>Oplopomus caninoides</i>	199

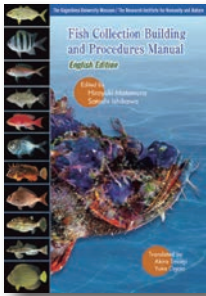
<i>orbicularis</i> , <i>Cylichthys</i>	239	<i>peterseni</i> , <i>Dactyloptena</i>	76	<i>Psenes cyanophrys</i>	179	<i>samurai</i> , <i>Oxycheilinus</i>	185
<i>orcinii</i> , <i>Brama</i>	126	<i>petimba</i> , <i>Fistularia</i>	61	<i>Psettodes erumei</i>	216	<i>santosi</i> , <i>Chelidoperca</i>	83
<i>orientalis</i> , <i>Dactyloptena</i>	75	<i>philippinensis</i> , <i>Synagrops</i>	79	Psettodidae	216	<i>Sarda orientalis</i>	214
<i>orientalis</i> , <i>Neotrygon</i>	26	<i>Photolateralis stercorarius</i>	124	<i>Pseudanthias rubrizonatus</i>	92	<i>Sardinella cf. longiceps</i>	42
<i>orientalis</i> , <i>Sarda</i>	214	<i>Photocheilichthys bindus</i>	125	<i>Pseudobalistes flavimarginatus</i>	231	<i>Sardinella gibbosa</i>	41
<i>ornatus</i> , <i>Lethrinus</i>	157	<i>Phyllichthys sp.</i>	225	<i>pseudoheteroloba</i> , <i>Encrasicholina</i>	43	<i>Sardinella sp.</i>	42
<i>Ostichthys japonicus</i>	58	<i>picta</i> , <i>Diagramma</i>	142	<i>Pseudorhombus arsius</i>	216	<i>Sargocentron rubrum</i>	59
<i>Ostorhinchus cavitensis</i>	99	Pinguipedidae	189	<i>Pseudorhombus duplicocellatus</i>	217	<i>sathete</i> , <i>Strophidon</i>	30
<i>Ostorhinchus fasciatus</i>	99	<i>Pinjalo lewisi</i>	135	<i>Pseudorhombus javanicus</i>	217	<i>Satyrichthys laticeps</i>	71
<i>Ostorhinchus nigrocincta</i>	100	<i>pinnatus</i> , <i>Platax</i>	201	<i>Pseudorhombus malayanus</i>	218	<i>Satyrichthys welchi</i>	71
<i>Ostorhinchus pleuron</i>	100	<i>pisang</i> , <i>Pterocaesio</i>	139	<i>Pseudorhombus oligodon</i>	218	<i>Saurida isarankurai</i>	48
Ostraciidae	235	<i>Pisodonophis boro</i>	33	<i>pseudothyrsoides</i> , <i>Gymnothorax</i>	29	<i>Saurida nebulosa</i>	49
<i>Ostracion cubicus</i>	235	<i>Pisodonophis cancrivorus</i>	34	<i>Pseudotriacanthus strigilifer</i>	229	<i>Saurida sp. 1</i>	49
<i>Otolithes ruber</i>	160	<i>Plagiopsetta glossa</i>	221	<i>Pterocaesio digramma</i>	138	<i>Saurida sp. 2</i>	49
<i>ovata</i> , <i>Solea</i>	225	<i>plagiotaelia</i> , <i>Carangoides</i>	110	<i>Pterocaesio pisang</i>	139	<i>Saurida sp. 3</i>	50
Oxudercidae	200	<i>Platax batavianus</i>	201	<i>Pterocaesio tessellata</i>	139	Scaridae	186
<i>oxycephalus</i> , <i>Hirundichthys</i>	66	<i>Platax pinnatus</i>	201	<i>Pterocaesio tile</i>	139	<i>Scarus dimidiatus</i>	187
<i>Oxycheilinus samurai</i>	185	<i>Platax teira</i>	201	<i>Pterois russelii</i>	67	<i>Scarus ghobban</i>	187
<i>Oxyeleotris marmorata</i>	196	Platycephalidae	72	<i>Pterois volitans</i>	68	<i>Scarus niger</i>	188
<i>Oxyorhamphus convexus convexus</i>	66	<i>Platycephalus indicus</i>	73	<i>puellus</i> , <i>Siganus</i>	203	<i>Scarus quoyi</i>	188
<i>Oxyurichthys auchenolepis</i>	199	<i>platycephalus</i> , <i>Callionymus</i>	194	<i>punctata</i> , <i>Drepane</i>	166	<i>Scarus rivulatus</i>	188
<i>oyena</i> , <i>Gerres</i>	141	<i>plebeius</i> , <i>Polydactylus</i>	181	<i>punctatus</i> , <i>Siganus</i>	203	<i>Scarus rubroviolaceus</i>	188
<i>pacificus</i> , <i>Acanthopagrus</i>	153	<i>Plectorhinchus chaetodonoides</i>	143	<i>punctifer</i> , <i>Encrasicholina</i>	44	Scatophagidae	202
<i>papuensis</i> , <i>Caranx</i>	112	<i>Plectorhinchus chrysoataenia</i>	143	<i>purpureus</i> , <i>Hydrolagus</i>	19	<i>Scatophagus argus</i>	202
<i>Paracaesio kusakarii</i>	134	<i>Plectorhinchus gibbosus</i>	143	<i>pusillus</i> , <i>Paramonacanthus</i>	233	<i>schaapi</i> , <i>Callionymus</i>	195
<i>Paracaesio stonei</i>	135	<i>Plectropomus laevis</i>	90	<i>quadrilineatus</i> , <i>Pelates</i>	175	<i>scheelei</i> , <i>Ariosoma</i>	37
<i>Paracaesio xanthura</i>	135	<i>Plectropomus leopardus</i>	91	<i>quadrinaculatus</i> , <i>Herklotsichthys</i>	41	<i>schlegelii</i> , <i>Cepola</i>	172
<i>Paracentropogon longispinis</i>	69	<i>Plectropomus maculatus</i>	91	<i>quagga</i> , <i>Zebrias</i>	226	<i>schoenleinii</i> , <i>Choerodon</i>	183
<i>Parachaetodon ocellatus</i>	169	<i>Plectropomus oligacanthus</i>	92	<i>quinquelineatus</i> , <i>Lutjanus</i>	133	Sciaenidae	158
<i>Parachaeturichthys polynema</i>	199	<i>pleuron</i> , <i>Ostorhinchus</i>	100	<i>quoyanus</i> , <i>Epinephelus</i>	88	<i>Scoplopsis marginalifer</i>	151
Paralepididae	51	<i>Plitofollis argyropleuron</i>	47	<i>quoyi</i> , <i>Scarus</i>	188	<i>Scoplopsis monogramma</i>	151
Paralichthyidae	216	Plotosidae	48	Rachycentridae	102	<i>Scoplopsis taenioptera</i>	152
<i>Paramonacanthus choircephalus</i>	233	<i>Plotosus canius</i>	48	<i>Rachycentron canadum</i>	102	<i>Scoplopsis vosmeri</i>	152
<i>Paramonacanthus curtiorhynchus</i>	233	<i>Plotosus lineatus</i>	48	<i>radiatus</i> , <i>Epinephelus</i>	88	<i>Scomber australasicus</i>	214
<i>Paramonacanthus pusillus</i>	233	<i>poecilopterus</i> , <i>Jaydia</i>	98	Rajidae	24	<i>Scomberoides commersonianus</i>	116
<i>Parapercis alboguttata</i>	189	<i>polyacanthus</i> , <i>Amioides</i>	96	<i>ramaraoi</i> , <i>Scorpaenopsis</i>	68	<i>Scomberoides tala</i>	117
<i>Parapercis bicoloripes</i>	189	<i>Polydactylus microstomus</i>	180	<i>randalli</i> , <i>Hoplolatilus</i>	102	<i>Scomberoides tol</i>	117
<i>Parapercis diplospilus</i>	189	<i>Polydactylus plebeius</i>	181	<i>ransonnetii</i> , <i>Parapriacanthus</i>	165	<i>Scomberomorus commerson</i>	215
<i>Parapercis muronis</i>	189	<i>polymnus</i> , <i>Amphiprion</i>	173	<i>ransonnetii</i> , <i>Elates</i>	72	Scombridae	211
<i>Parapercis sp. 1</i>	190	<i>polynema</i> , <i>Parachaeturichthys</i>	199	<i>Rastrelliger brachysoma</i>	213	Scorpaenidae	67
<i>Parapercis sp. 2</i>	190	Polynemidae	180	<i>Rastrelliger faughni</i>	213	<i>Scorpaenopsis neglecta</i>	68
<i>Parapriacanthus ransonneti</i>	165	<i>polyophthalmus</i> , <i>Grammatobothus</i>	220	<i>Rastrelliger kanagurta</i>	214	<i>Scorpaenopsis ramaraoi</i>	68
<i>Parascalopsis eriomma</i>	148	<i>polyphkekadion</i> , <i>Epinephelus</i>	88	<i>reipublicae</i> , <i>Tetrosomus</i>	236	<i>scriptus</i> , <i>Aluterus</i>	231
<i>Parascalopsis inermis</i>	149	Pomacanthidae	170	<i>rexia bengalensis</i>	210	<i>scutatus</i> , <i>Centriscus</i>	61
<i>Parascalopsis tanyactis</i>	149	<i>Pomacanthus imperator</i>	170	<i>Rhabdamia spilota</i>	100	Scyliorhinidae	20
<i>Parastromateus niger</i>	116	Pomacentridae	172	Rhinobatidae	24	<i>sealei</i> , <i>Filimanus</i>	180
<i>Paratrypauchen microcephalus</i>	200	<i>Pomacentrus adelus</i>	174	<i>Rhinobatos borneensis</i>	24	<i>sebae</i> , <i>Lutjanus</i>	134
<i>Pardachirus pavoninus</i>	224	<i>Pomacentrus cuneatus</i>	174	<i>Rhinobatos whitei</i>	24	<i>Selar boops</i>	118
<i>Parupeneus baverinus</i>	161	<i>Pomadasyus argenteus</i>	144	<i>rivoliana</i> , <i>Seriola</i>	119	<i>Selar crumenophthalmus</i>	118
<i>Parupeneus chrysopleuron</i>	161	<i>Pomadasyus argyreus</i>	144	<i>rivulatus</i> , <i>Lutjanus</i>	133	<i>Selaroides leptolepis</i>	118
<i>Parupeneus heptacanthus</i>	161	<i>Pomadasyus maculatus</i>	144	<i>rivulatus</i> , <i>Scarus</i>	188	<i>semifasciatus</i> , <i>Nibea</i>	159
<i>Parupeneus indicus</i>	162	<i>Pomadasyus trifasciatus</i>	145	<i>Roa sp.</i>	169	<i>Seriola rivoliana</i>	119
<i>Parupeneus multifasciatus</i>	162	<i>praestus</i> , <i>Carangoides</i>	110	<i>rochei rochei</i> , <i>Auxis</i>	211	<i>Seriolina nigrofasciata</i>	119
<i>parvipectoralis</i> , <i>Neenchelys</i>	32	Priacanthidae	94	<i>roga</i> , <i>Aethaloperca</i>	79	<i>serpens</i> , <i>Gempylus</i>	209
<i>pauciradiata</i> , <i>Brama</i>	126	<i>Priacanthus blochii</i>	94	<i>Rogadius tuberculatus</i>	74	Serranidae	79
<i>pauciradiatus</i> , <i>Cubiceps</i>	177	<i>Priacanthus hamrur</i>	95	<i>ruber</i> , <i>Otolithes</i>	160	<i>setifer</i> , <i>Xiphasia</i>	192
<i>pavoninus</i> , <i>Pardachirus</i>	224	<i>Priacanthus macracanthus</i>	95	<i>rubescens</i> , <i>Taractes</i>	127	<i>setiger</i> , <i>Trichonotus</i>	190
Pegasidae	60	<i>Priacanthus sagittarius</i>	95	<i>rubicunda</i> , <i>Antigonia</i>	60	<i>setosus</i> , <i>Pentapodus</i>	150
<i>Pegasus volitans</i>	60	<i>Priacanthus tayenus</i>	96	<i>rubrioperculatus</i> , <i>Lethrinus</i>	158	<i>sexfasciatus</i> , <i>Caranx</i>	112
<i>pelamis</i> , <i>Katsuwonus</i>	212	<i>Pristigenys nipponia</i>	96	<i>rubrizonatus</i> , <i>Pseudanthias</i>	92	<i>sexfasciatus</i> , <i>Epinephelus</i>	89
<i>Pelates quadrilineatus</i>	175	Pristiophoridae	23	<i>rubroviolaceus</i> , <i>Scarus</i>	188	<i>sexmaculata</i> , <i>Cephalopholis</i>	82
Pempheridae	165	<i>Pristiophorus lanae</i>	23	<i>rubrum</i> , <i>Sargocentron</i>	59	<i>shima</i> , <i>Gerres</i>	141
<i>Pennahia aenea</i>	160	<i>Pristipomoides filamentosus</i>	136	<i>russelii</i> , <i>Dendrophysa</i>	159	<i>sieboldii</i> , <i>Pristipomoides</i>	136
Pentacerotidae	170	<i>Pristipomoides multidentis</i>	136	<i>russelii</i> , <i>Pterois</i>	67	Siganidae	202
<i>Pentapodus bifasciatus</i>	150	<i>Pristipomoides sieboldii</i>	136	<i>russelii</i> , <i>Decapterus</i>	114	<i>Siganus fuscescens</i>	202
<i>Pentapodus nagasakiensis</i>	150	<i>Pristipomoides typus</i>	137	<i>russellii</i> , <i>Lutjanus</i>	133	<i>Siganus guttatus</i>	202
<i>Pentapodus setosus</i>	150	<i>Pristotis obtusirostris</i>	174	<i>rutilans</i> , <i>Aphareus</i>	128	<i>Siganus puellus</i>	203
<i>Pentapodus trivittatus</i>	151	<i>Promethes</i> , <i>Promethichthys</i>	209	<i>Ryukyupercis gushikeni</i>	190	<i>Siganus punctatus</i>	203
<i>Pentaptrion longimanus</i>	141	<i>Promethichthys promethes</i>	209	<i>sagittarius</i> , <i>Priacanthus</i>	95	<i>Siganus spinus</i>	203
Peristediidae	71	<i>Psammoperca waigiensis</i>	77	Samaridae	221	<i>Siganus virgatus</i>	204
<i>perusii</i> , <i>Moolgarda</i>	62	<i>Psenes arafurensis</i>	178	<i>Samaris cristatus</i>	221	<i>sihama</i> , <i>Sillago</i>	160

Sillaginidae	160	<i>struhsakeri</i> , <i>Emmelichthys</i>	128	<i>theraps</i> , <i>Terapon</i>	176	<i>Uranoscopus bicinctus</i>	192
<i>Sillago aeolus</i>	160	<i>subviridis</i> , <i>Chelon</i>	62	<i>thompsoni</i> , <i>Muraenichthys</i>	31	<i>Uraspis helvola</i>	120
<i>Sillago sihama</i>	160	<i>subvittatus</i> , <i>Upeneus</i>	163	<i>thoracata</i> , <i>Escualosa</i>	40	<i>Uraspis uraspis</i>	121
<i>sinensis</i> , <i>Inimicus</i>	69	<i>Suggrundus macracanthus</i>	74	<i>Thunnus albacares</i>	215	<i>uraspis</i> , <i>Uraspis</i>	121
<i>Siphamia elongata</i>	101	<i>sulphureus</i> , <i>Upeneus</i>	164	<i>Thunnus tonggol</i>	215	<i>Uroconger lepturus</i>	38
<i>sirm</i> , <i>Amblygaster</i>	40	<i>sundaicus</i> , <i>Upeneus</i>	164	<i>tile</i> , <i>Pterocaesio</i>	139	<i>urodeta</i> , <i>Cephalopholis</i>	82
<i>Skythrenchelys zabra</i>	34	<i>surinamensis</i> , <i>Lobotes</i>	139	<i>tille</i> , <i>Caranx</i>	113	Urolophidae	25
<i>smithi</i> , <i>Jaydia</i>	98	<i>Symbolophorus evermanni</i>	53	<i>tiltoni</i> , <i>Dactyloptena</i>	76	<i>Urolophus aurantiacus</i>	25
<i>solandri</i> , <i>Acanthocybium</i>	211	<i>Symbolophorus</i> sp.	53	<i>tol</i> , <i>Scomberoides</i>	117	<i>vagabundus</i> , <i>Chaetodon</i>	168
<i>Solea ovata</i>	225	<i>Symphysanodon katayamai</i>	93	<i>tonggol</i> , <i>Thunnus</i>	215	<i>vaigiensis</i> , <i>Abudefduf</i>	172
Soleidae	222	Symphysanodontidae	93	<i>Torquigener brevipinnis</i>	238	<i>vaigiensis</i> , <i>Ellochelon</i>	62
<i>sonnerati</i> , <i>Cephalopholis</i>	82	Synodontidae	79	Trachichthyidae	59	<i>vaigiensis</i> , <i>Kyphosus</i>	177
<i>spadiceus</i> , <i>Lagocephalus</i>	253	<i>Synagrops japonicus</i>	79	<i>Trachinocephalus trachinus</i>	51	<i>Variola albimarginata</i>	92
Sparidae	138	Synanceiidae	69	<i>trachinus</i> , <i>Trachinocephalus</i>	51	<i>Verulux cypselurus</i>	101
<i>speciosus</i> , <i>Gnathanodon</i>	115	Synodontidae	48	<i>tragula</i> , <i>Upeneus</i>	165	<i>vidua</i> , <i>Melichthys</i>	230
<i>Sphyraena forsteri</i>	208	<i>Synodus macrops</i>	50	Triacanthidae	229	<i>virescens</i> , <i>Aprion</i>	128
<i>Sphyraena jello</i>	208	<i>Synodus oculus</i>	50	Triakidae	20	<i>virgatus</i> , <i>Siganus</i>	204
<i>Sphyraena obtusata</i>	208	<i>Synodus tectus</i>	51	Trichiuridae	210	<i>viridis</i> , <i>Euleptorhamphus</i>	63
Sphyraenidae	208	<i>tabl</i> , <i>Decapterus</i>	115	<i>Trichiurus lepturus</i>	210	<i>vitta</i> , <i>Lutjanus</i>	134
<i>spilostylus</i> , <i>Cyclichthys</i>	239	<i>Taeniamia fucata</i>	101	Trichonotidae	190	<i>vittatus</i> , <i>Upeneus</i>	165
<i>spilota</i> , <i>Rhabdamia</i>	100	<i>taenioptera</i> , <i>Scolopsis</i>	152	<i>Trichonotus setiger</i>	190	<i>volitans</i> , <i>Pegasus</i>	60
<i>spinus</i> , <i>Siganus</i>	203	<i>Taeniura lymna</i>	26	<i>trifasciatus</i> , <i>Pomadasy</i>	145	<i>volitans</i> , <i>Pterois</i>	68
<i>splendens</i> , <i>Eubleekeria</i>	123	<i>tala</i> , <i>Scomberoides</i>	117	Triglidae	70	<i>vorax</i> , <i>Champsodon</i> cf.	191
<i>Spratelloides delicatulus</i>	42	<i>tanyactis</i> , <i>Parascopsis</i>	149	<i>trivittatus</i> , <i>Pentapodus</i>	151	<i>vosmeri</i> , <i>Scolopsis</i>	152
<i>Spratelloides gracilis</i>	43	<i>Taractes rubescens</i>	127	<i>truncatus</i> , <i>Jaydia</i>	99	<i>waigiensis</i> , <i>Psammoderca</i>	77
Squalidae	22	<i>Taractichthys steindachneri</i>	127	<i>Trypauchenopsis intermedia</i>	200	<i>waitei</i> , <i>Stolephorus</i>	45
<i>Squalus altipinnis</i>	22	<i>tayenus</i> , <i>Priacanthus</i>	96	<i>tuberculatus</i> , <i>Rogadius</i>	74	<i>welchi</i> , <i>Satyrichthys</i>	71
<i>Squalus brevirostris</i>	23	<i>tectus</i> , <i>Synodus</i>	51	<i>typus</i> , <i>Histioporus</i>	170	<i>whitei</i> , <i>Rhinobatos</i>	24
<i>steindachneri</i> , <i>Taractichthys</i>	127	<i>teira</i> , <i>Platax</i>	201	<i>typus</i> , <i>Pristipomoides</i>	137	<i>whiteleggii</i> , <i>Cubiceps</i>	178
<i>stellata</i> , <i>Haliutaea</i>	56	<i>temminckii</i> , <i>Hypoatherina</i>	63	<i>typus</i> , <i>Xiphocheilus</i>	185	<i>xanthopterus</i> , <i>Acanthurus</i>	206
<i>stellatus</i> , <i>Abalistes</i>	229	<i>Tentoriceps cristatus</i>	210	<i>uamak</i> , <i>Himantura</i>	25	<i>xanthura</i> , <i>Paracaesio</i>	135
<i>stenopsis</i> , <i>Upeneus</i>	163	<i>Terapon jarbua</i>	176	<i>Ulua mentalis</i>	120	<i>Xiphasia setifer</i>	192
<i>stercorarius</i> , <i>Photolateralis</i>	124	<i>Terapon theraps</i>	176	<i>undulosus</i> , <i>Epinephelus</i>	89	<i>Xiphocheilus typus</i>	185
<i>Stolephorus indicus</i>	44	Terapontidae	175	<i>unimaculatus</i> , <i>Odontanthias</i>	90	<i>Yirrikala misolensis</i>	35
<i>Stolephorus</i> sp.	45	<i>tergus</i> , <i>Naso</i>	207	<i>Upeneus guttatus</i>	162	<i>Yongeichthys nebulosus</i>	200
<i>Stolephorus waitei</i>	45	<i>tessellata</i> , <i>Pterocaesio</i>	139	<i>Upeneus japonicus</i>	162	<i>zabra</i> , <i>Skythrenchelys</i>	34
<i>stonei</i> , <i>Paracaesio</i>	135	<i>tessellatus</i> , <i>Thamnaconus</i>	234	<i>Upeneus moluccensis</i>	163	Zanclidae	204
<i>striata</i> , <i>Channa</i>	216	<i>tetradactylum</i> , <i>Eleutheronema</i>	180	<i>Upeneus stenopsis</i>	163	<i>Zanclus cornutus</i>	204
<i>striatodes</i> , <i>Jaydia</i>	98	Tetraodontidae	236	<i>Upeneus subvittatus</i>	163	<i>zebra</i> , <i>Heterodontus</i>	19
<i>striatus</i> , <i>Antemarius</i>	56	Tetrarogidae	69	<i>Upeneus sulphureus</i>	164	<i>Zebrias quagga</i>	226
<i>striatus</i> , <i>Ctenochaetus</i>	206	<i>Tetrosomus reipublicae</i>	236	<i>Upeneus sundaicus</i>	164	Zeidae	59
<i>strigilifer</i> , <i>Pseudotriacanthus</i>	229	<i>Thamnaconus hypargyreus</i>	234	<i>Upeneus tragula</i>	165	<i>Zeus faber</i>	59
<i>Strongylura incisa</i>	66	<i>Thamnaconus multilineatus</i>	234	<i>Upeneus vittatus</i>	165	<i>zysron</i> , <i>Nemipterus</i>	147
<i>Strophidon sathete</i>	30	<i>Thamnaconus tessellatus</i>	234	Uranoscopidae	192		
<i>Strophidon</i> sp.	30	<i>thazard</i> , <i>Auxis</i>	211	<i>Uranoscopus affinis</i>	192		



Back cover images
New species discovered during this project from Panay Island:
upper, *Parapercis* sp.; lower, *Oxycheilinus samurai*

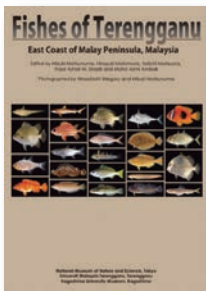
Ichthyological Publications by the Kagoshima University Museum



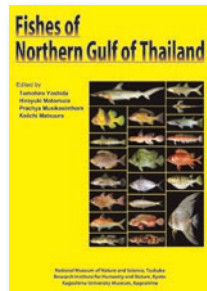
Motomura, H. and S. Ishikawa (eds.). 2013. Fish collection building and procedures manual. English edition. Kagoshima University Museum, Kagoshima and Research Institute for Humanity and Nature, Kyoto. 70 pp.



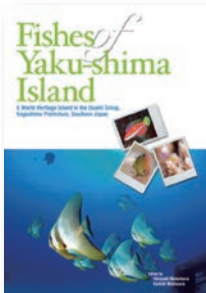
Motomura, H. (ed.). 2009. Fish collection building and procedures manual. Japanese edition. Kagoshima University Museum, Kagoshima. 70 pp.



Matsunuma, M., H. Motomura, K. Matsuura, N. A. M. Shazili and M. A. Ambak (eds.). 2011. Fishes of Terengganu - east coast of Malay Peninsula, Malaysia. National Museum of Nature and Science, Tokyo, Universiti Malaysia Terengganu, Terengganu, and Kagoshima University Museum, Kagoshima. viii + 251 pp., 678 figs.



Yoshida, T., H. Motomura, P. Musikasinthorn and K. Matsuura (eds.). 2013. Fishes of northern Gulf of Thailand. National Museum of Nature and Science, Tsukuba, Research Institute for Humanity and Nature, Kyoto, and Kagoshima University Museum, Kagoshima. viii + 239 pp., 621 figs.



Motomura, H. and K. Matsuura (eds.). 2010. Fishes of Yaku-shima Island - A World Heritage island in the Osumi Group, Kagoshima Prefecture, southern Japan. National Museum of Nature and Science, Tokyo. viii + 264 pp., 704 figs.



Motomura, H., S. Dewa, K. Furuta and K. Matsuura (eds.). 2013. Fishes of Ioujima and Take-shima islands, Mishima, Kagoshima, Japan. Kagoshima University Museum, Kagoshima and National Museum of Nature and Science, Tsukuba. 390 pp., 883 figs.



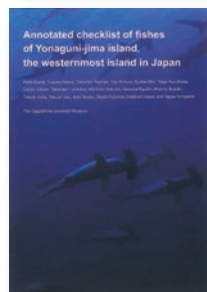
Motomura, H. and K. Matsuura (eds.). 2014. Field guide to fishes of Yoron Island in the middle of the Ryukyu Islands, Japan. Kagoshima University Museum, Kagoshima and National Museum of Nature and Science, Tsukuba. 648 pp., 1808 figs.



Matsunuma, M., Y. Fukui and H. Motomura (eds.). 2016. Freshwater fishes of Kagoshima City, southern Kyushu, Japan. Kagoshima University Museum, Kagoshima. 86 pp., 221 figs.



Iwatsubo, H., S. Kato and H. Motomura (eds.). 2016. Field guide to fishes of Ei in southern Kyushu, Japan. Kagoshima Museum of Aquatic Biodiversity, Makurazaki, Kagoshima University Museum, Kagoshima, and Seahorse Ways, Minami-kyushu. 80 pp., 192 figs.



Koeda, K., Y. Hibino, T. Yoshida, Y. Kimura, R. Miki, T. Kunishima, D. Sasaki, T. Furukawa, M. Sakurai, K. Eguchi, H. Suzuki, T. Inaba, T. Uejo, S. Tanaka, M. Fujisawa, H. Wada and T. Uchiyama. 2016. Annotated checklist of fishes of Yonaguni-jima island, the westernmost island in Japan. Kagoshima University Museum, Kagoshima. v + 120 pp., 523 figs.

