First record of blackspot razorfish *Iniistius evides* (Labriformes: Labridae) from Cambodian marine waters

KE Pheara[1], CHHUOY Samol[2,*], SAY Pisey[2], UY Sophorn[2], Sebastian MUÑOZ-DUQUE[3], SUP Mecta[2] & NGOR Peng Bun[2]

[1] Fisheries Science Programme, Faculty of Fisheries and Aquaculture, Royal University of Agriculture, Phnom Penh, Sangkat Dangkor, Khan Dangkor, P.O. Box 2696, Phnom Penh 120501, Cambodia.

[2] Center of Excellence on Fisheries and Aquatic Sciences for Sustainability, Faculty of Fisheries and Aquaculture, Royal University of Agriculture, Phnom Penh, Sangkat Dangkor, Khan Dangkor, P.O. Box 2696, Phnom Penh 120501, Cambodia.

[3] Marine Conservation Cambodia, Koh Ach Seh, Phum Kep, Sangkat Kep, Krong Kep, Kep Province, Cambodia.

* Corresponding author. Email chhuoysamol@yahoo.com

Paper submitted 30 March 2026, revised manuscript accepted 25 May 2026.

Fishes of the family Labridae, commonly known as wrasses, were historically classified within the order Perciformes (Randall & Earle, 2002; Nelson, 2006), but recent taxonomic revisions have assigned them to the order Labriformes (Nelson & Grande, 2016; Fricke *et al*., 2026). Labrids are one of the most dominant families of marine fishes and the largest family after Gobiidae and Serranidae, with 690 valid species described in 80 genera (Fricke *et al*., 2026). Members of the family commonly inhabit shallow marine environments such as sandy bottoms, coral reefs, rocky reefs, seagrass beds and algae-covered substrates (Perry *et al*., 2018; Hall & Kingsford, 2021). They are widely distributed throughout the Atlantic, Indian and Pacific oceans (Nelson, 2006; Nelson & Grande, 2016), with the majority found in the tropical and subtropical Indo-Pacific region (Parenti & Randall, 2011). Most species are demersal and diurnal fishes, many of which burrow into sand and display diverse feeding strategies including benthic invertebrates, small fishes, coral mucus, zooplankton, ectoparasites and algae (Westneat, 2002). Morphologically, labrids are characterized by a laterally compressed body, a protrusible terminal mouth, and continuous or interrupted lateral line extending beneath the posterior part of the dorsal fin. The dorsal fin is typically single and long-based, usually containing 8–21 spines and 6–21 soft rays, whereas the anal fin generally has 2–6 spines and 7–18 soft rays (Nelson, 2006; Nelson & Grande, 2016).

Within the family, the genus *Iniistius* Gill, 1862, commonly known as razorfishes, includes 23 valid species (Froese & Pauly, 2025). In their review of Hawaiian razorfishes, Randall & Earle (2002) transferred Indo-Pacific species formerly placed in the genus *Xyrichtys* to *Iniistius*, except for *I. pavo*, which extends into the eastern Pacific. Consequently, members of *Xyrichtys* are now confined to the Atlantic and eastern Pacific regions (Randall & Earle, 2002). Razorfishes are easily recognized by strongly compressed bodies, steep dorsal profile of the snout, dorsal fin with nine spines and 12 soft rays, anal fin with three spines and 12 soft rays, pelvic fin with one spine and five soft rays, pectoral fins with 12 soft rays, an interrupted lateral line and short and slightly-rounded caudal fin (Randall & Earle, 2002; Randall & Jonsson, 2008). The blackspot razorfish *I. evides* (Jordan & Richardson, 1909), previously reported under synonyms including *Hemipteronotus evides*, *X. evides* and *H. maculosus*, is currently recognized as a valid species (Froese & Pauly, 2025). The species has been recorded from southern Japan and the Ryukyu Islands southward through Taiwan and the South China Sea to Thailand, Peninsular Malaysia and Vietnam (Randall & Jonsson, 2008; Yoshida *et al*., 2013). However, it has not been documented in Cambodian marine waters.

In July 2025, a single specimen of *Iniistius* was collected from the local fish landing site in Preah Sihanouk Province, southwestern Cambodia. Based on

CITATION: Ke P., Chhuoy S., Say P., Uy S., Muñoz-Duque, S., Sup M. & Ngor P.B. (2026) First record of blackspot razorfish *Iniistius evides* (Labriformes: Labridae) from Cambodian marine waters. *Cambodian Journal of Natural History*, **2026**, 15–20. DOI 10.5281/zenodo.20688224

 © Centre for Biodiversity Conservation, Phnom Penh

morphological examination and comparison with identification keys and taxonomic descriptions (Randall & Earle, 2002; Randall & Jonsson, 2008; Yoshida *et al*., 2013; Motomura, 2017, 2021; Ahmad *et al*., 2018), the specimen was identified as I. *evides*. We therefore confirm the first record of the species in Cambodian marine waters.

***Iniistius evides* (Jordan & Richardson, 1909)**

Material examined: A single specimen was obtained during field sampling in July 2025 from a local fish landing in Mondul Bei, Sangkat Bei, Khan Mittakpheap, Preah Sihanouk Province, southwest Cambodia (Fig. 1). The specimen was photographed in fresh condition, then fixed in 10% formalin for one week and subsequently preserved in 70% ethanol (Fig. 2). It was deposited in the Fish Collection Room of the Faculty of Fisheries and Aquaculture, Royal University of Agriculture, Cambodia, under voucher specimen number RUAFI-M00176 (174.2 mm SL [standard length], 212 mm TL [total length]).

Description: Morphometric and meristic data are shown in Table 1. *Iniistius evides* is characterised by a deep and very compressed body, head with strongly convex dorsal profile, snout long and nearly vertical; mouth small with slightly projecting lower jaw; lateral line interrupted; caudal fin rounded; dorsal fin continuous with a deep notch between the second and third dorsal-fin spines, the membrane not extending to the base of the fin; and a distinctive white-edged black spot on the dorsal portion of the body. It possesses dorsal fin IX, 12 (all branched), anal fin III, 12 (seven unbranched and five branched), pelvic fin I, five (one unbranched and four branched). The dorsal-fin origin is slightly posterior to vertical through posterior margin of the orbit. The last dorsal-fin soft ray is elongated and extends beyond the vertical through the caudal-fin base. The scales are thin and cycloid, with small scales present below eyes. The lateral line comprises 20+5 scales, with the last located on the base of the causal fin. There are three scale rows above the lateral line to the origin of the dorsal fin and five scale rows between the lateral line to origin of anal fin. Nine circum-peduncular scales are present. Body depth is 30.3% of standard length, whereas head length is 28.41% of standard length and snout length is 35.35% of head length (Table 1). In the fresh specimen, the head and body are grey to pale yellowish, with a white-edged black spot mostly centred near the eighth lateral-line scale. The dorsal, caudal and anal fins are orange-yellow with metallic blue vermiculate markings. In preserved specimens, the head and body become pale greyish, and all the fins fade to a similar colouration.

Distribution: *Iniistius evides* is documented from southern Japan and the Ryukyu Islands southward through Taiwan and the South China Sea to Thailand, Peninsular Malaysia and Vietnam across the western

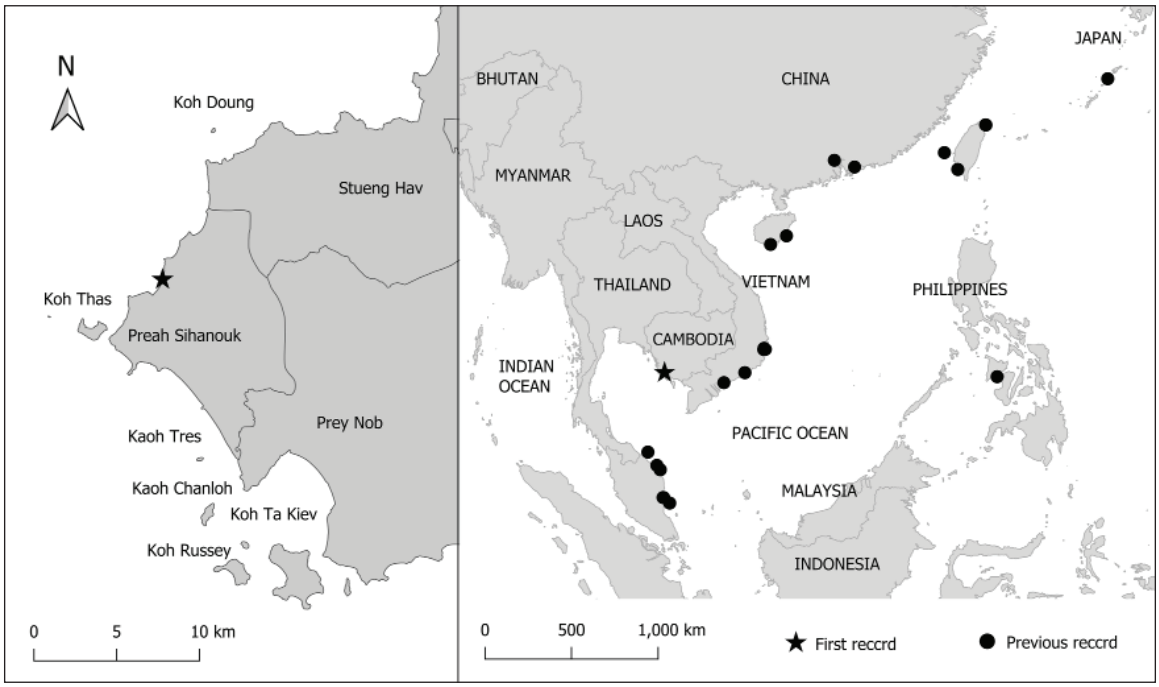


Fig. 1 First record for *Iniistius evides* in Cambodia (asterisk). Solid circles indicate literature records (GBIF Secretariat, 2023)

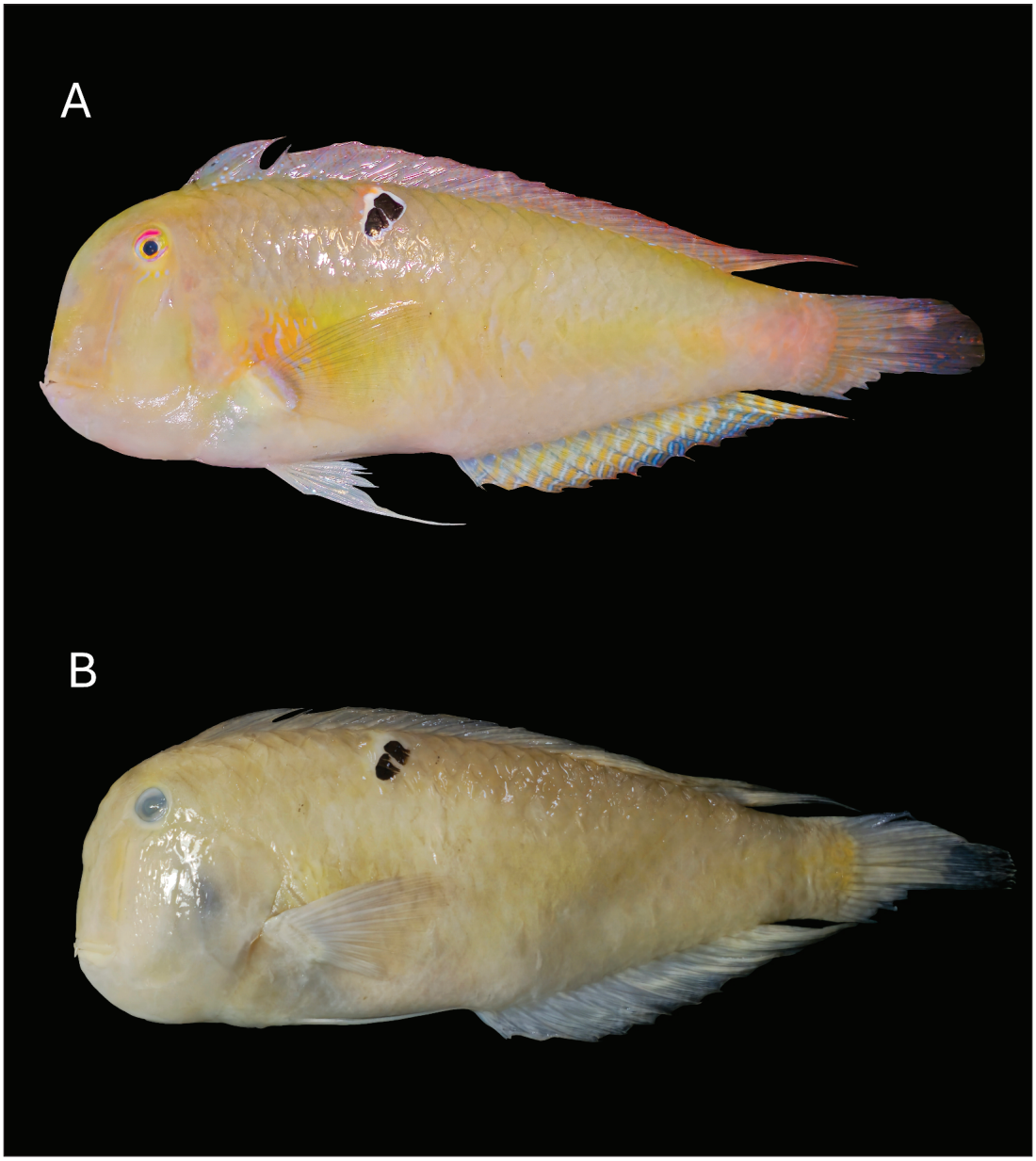


Fig. 2 Fresh (A) and preserved (B) specimen of *Iniistius evides* from Preah Sihanoukville Province, Cambodia

Pacific (Randall & Jonsson, 2008; Parenti & Randall, 2011). Within the Indochinese Peninsula, the species has been reported from marine waters in Thailand, Vietnam, and Peninsular Malaysia (Yoshida *et al*., 2013; Ahmad *et al*., 2018; Kimura & Imamura, 2018). However, no records, photographs or voucher specimens have been reported from Cambodian waters (Ing & Jensen, 2006; FiA, 2008, 2013, 2015, 2018, 2022, 2024; GBIF Secretariat, 2023; Clay *et al*., 2024; Herranz Muñoz *et al*., 2024; Froese & Pauly, 2025). Our specimen is therefore the first to confirm the occurrence of *I. evides* in Cambodia.

Habitat: *Iniistius evides* has been found in open sand adjacent to seagrass beds and reefs at depths of around 5–15 m (Kimura & Imamura, 2018; Allen & Erdmann, 2024). More specifically, the species inhabits sparse coral rubble interspersed with sand patches, coastal reef-associated sandy bottoms, with moderate water clarity and gentle currents (Randall & Earle, 2002; Kimura & Imamura, 2018; Allen & Erdmann, 2024). It dives into the sand to sleep safely at night or to hide when alarmed (Allen & Erdmann, 2012). Our specimen was obtained from a fish landing site in Preah Sihanouk Province, indi-

© Centre for Biodiversity Conservation, Phnom Penh

Table 1 Morphometric and meristic data for study specimen of *Iniistius evides* from Cambodia

Morphometrics	Measurements (mm)
Total length (TL)	212.0
Standard length (SL)	174.2
As % of SL	
Body depth	30.3
Body width	10.44
Head length	28.41
Snout length	10.04
Orbit diameter	6.08
Eye diameter	4.64
Interorbital width	5.28
Jaw length	7.23
Caudal-peduncle depth	13.26
Caudal-peduncle length	13.77
Pre-dorsal length	15.15
Pre-anal length	49.94
Pre-pelvic length	28.01
Pre-pectoral length	25.14
Post-orbital length	13.54
Dorsal-fin base	70.78
Anal-fin base	38.51
First dorsal spine	6.08
Second dorsal spine	7.69
Third dorsal spine	7.69
Longest dorsal soft ray	19.0
Caudal-fin length	20.55
Pectoral fin length	24.11
Pelvic spine length	26.92
Pelvic fin length	46.9
As % of head length	
Snout length	35.35
Orbit diameter	21.41
Eye diameter	16.36
Interorbital length	18.58
Jaw length	25.45
Meristics	**Counts**
Dorsal fin spines	IX
Dorsal fin soft rays	12
Anal fin spines	III
Anal fin soft rays	12
Caudal fin soft rays	13
Pectoral fin soft rays	11
Pelvic fin spines	I
Pelvic fin soft rays	5

cating the occurrence of the species in Cambodian waters. Coastal habitats in the province include sandy substrates, seagrass beds and coral reefs (FiA, 2023; Serywath *et al*., 2025), which are consistent with habitats previously reported for the species (Randall & Earle, 2002; Kimura & Imamura, 2018; Allen & Erdmann, 2024).

Remarks: Our specimen matches the diagnostic characters of *Iniistius* given by Randall & Earle (2002) and descriptions of *I. evides* provided by Randall & Jonsson (2008). The morphometric and meristic characters of our specimen are also consistent with those for *I. evides* from Thailand (Yoshida *et al*., 2013). *Iniistius evides* resembles *I. baldwini*, *I. bimaculatus* and *I. dea*, but can be distinguished from *I. baldwini* by its shorter head length (28.45% SL vs. 32.2–33.8% SL in *I. baldwini*), longer pelvic-fin length (26.92% SL vs. 18.5–20.0% SL in *I. baldwini*), and a smaller black spot nearly centred on the eight lateral-line scale (vs. a larger or broader black spot centred on the ninth lateral-line scale in *I. baldwini*) (Randall & Jonsson, 2008). It differs from *I. bimaculatus* in having a different number of dorsal-fin soft rays (12 vs. 14 soft rays in *I. bimaculatus*), and anal-fin soft rays (12 vs. 11 soft rays in *I. bimaculatus*), and a black spot nearly centred in the lateral line scale compared with a black spot below the lateral line in *I. bimaculatus* (Mohanty *et al*., 2020). Finally, the species is distinguished from *I. dea* in having shorter length of the first two dorsal-fin spines than *I. dea*, and a larger black spot below the dorsal-fin spine base compared to *I. dea* (Kimura & Imamura, 2018).

Multiple razorfishes are known from Southeast Asian countries, including *I. aneitensis*, *I. baldwini*, *I. celebicus*, *I. dea*, *I. evides*, *I. melanopus*, *I. opalus*, *I. pavo*, *I. pentadactylus*, *I. twistii* and *I. trivittatus* (Matsunuma *et al*., 2011; Kimura & Imamura, 2018; Motomura *et al*., 2021; Gloerfelt-Tarp, 2022; Allen & Erdmann, 2024). For instance, *I. trivittatus* and *I. evides* are known from Thailand and Malaysia (Matsunuma *et al*., 2011; Motomura *et al*., 2021), *I. trivittatus* and *I. dea* from Vietnam (Kimura &

Imamura, 2018), *I. dea*, *I. pavo*, *I. opalus*, and *I. pentadactylus* from Indonesia (Gloerfelt-Tarp, 2022). In Cambodian coastal and marine waters, 31 species of Labridae from 13 genera have previously been reported, including *Anampses caeruleopunctatus*, *A. geographicus*, *Cheilinus chlorourus*, *C. diagrammus*, *C. trilobatus*, *C. undulatus*, *C. fasciatus*, *Choerodon anchorago*, *C. typus*, *Epibulus insidiator*, *Halichoeres argus*, *H. annulatus*, *H. chloropterus*, *H. hortulanus*, *H. leucurus*, *Halichoeres marginatus*, *H. nigrescens*, *H. vrolikii*, *Hemigymnus fasciatus*, *H. melapterus*, *Hipposcarus longiceps*, *Labroides dimidiatus*, *Leptoscarus vaigiensis*, *Scarus ghobban*, *S. hypselopterus*, *S. prasiognathos*, *S. psittacus*, *S. quoyi*, *S. rivulatus*, *Stethojulis trilineata*, and *Thalassoma lunare* (Ing & Jensen, 2006; FiA, 2008, 2013, 2015, 2018, 2022, 2024; GBIF Secretariat; 2023, Clay *et al*., 2024; Herranz-Muñoz *et al*., 2024; Froese & Pauly, 2025). Since no species in *Iniistius* had previously been recorded from Cambodia, our specimen represents the first record of both the genus and species for the country. As such, the species can be included in FishBase (https://fishbase.org/) and future literature on Cambodian coastal and marine fishes.

Acknowledgements

The authors thank the Faculty of Fisheries and Aquaculture of the Royal University of Agriculture for laboratory access and support. Sincere gratitude is also extended to the students and members of the faculty for their assistance during the study.

References

Ahmad, A., Anie, L.P.K., Nor Azman, Z., Mohd Saki, N. & Krajangdara, T. (2018) *Marine Fishes and Crustaceans of the Southeast Asian Region*. Southeast Asian Fisheries Development Center, Bangkok, Thailand.

Allen, G.R. & Erdmann, M.V. (2012) *Reef Fishes of the East Indies*. Volume II. Conservation International Foundation, Perth, Australia.

Allen, G.R. & Erdmann, M.V. (2024) *Reef Fishes of the East Indies*. Volume II. Second Edition. Conservation International Foundation, Perth, Australia.

Clay, C.G., Gösser, F., Glue, M., Long, M., Rog, S.M., Sinovas, P. & Reimer, J.D. (2024) Exploring species and functional diversity of fishes in Cambodian coastal habitats using eDNA metabarcoding. *Coral Reefs*, **43**, 1145–1160.

[FiA] Fisheries Administration (2008) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2013) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2015) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2018) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2022) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2023) *Koh Kong, Preah Sihanouk, Kampot and Kep—Biophysical Update: Seagrass and Coral Reef Distribution and Monitoring*. Fisheries Administration, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

[FiA] Fisheries Administration (2024) *Fisheries Diary*. FiA, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

Fricke, R., Eschmeyer, W.N. & Fong, J.D. (2026) *Eschmeyer's catalog of fishes: genera/species by family/subfamily*. Http://researcharchive.calacademy.org/research/ichthyology/catalog/SpeciesByFamily.asp [accessed 11 March 2026].

Froese, R. & Pauly, D. (2025) *FishBase*. Http://www.fishbase.org [accessed 11 March 2026].

GBIF Secretariat (2023) *GBIF Backbone Taxonomy*. Https://www.gbif.org/ [accessed 9 March 2026].

Gloerfelt-Tarp, T. & Kailola, P.J. (2022) *Trawled Fishes of Southern Indonesia and Northwestern Australia*. Second Edition. Australian Society for Fish Biology, Australia.

Hall, A.E. & Kingsford, M.J. (2021) Habitat type and complexity drive fish assemblages in a tropical seascape. *Journal of Fish Biology*, **99**, 1364–1379.

Ing T., Jensen, K.R. & Vi L. (2006) *A Field Guide to the Marine Living Resources in Cambodia*. Fisheries Administration, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

Kimura S., Imamura H., Nguyen V.Q. & Pham T.D. (2018) *Fishes of Ha Long Bay, the World Natural Heritage Site in Northern Vietnam*. National Museum of Nature and Science, Tokyo, Japan.

Herranz Muñoz, V., Neak P., Furey, N., Sin S., Sophatt R., Chartier, G., Song D., Vong V., Sinovas, P., Chhuoy S., San C., Glue, M., Yun R., Ngor P.B., Holden, J. & Rog, S. (2024) *Mangrove Biodiversity Survey Report, Peam Krasop and Koh Kapik*. Fauna & Flora and Fishing Cat Ecological Enterprise, Ministry of Environment, Phnom Penh, Cambodia.

Matsunuma M., Motomura H., Matsuura K., Shazili, N.A.M. & Ambak, M.A. (2011) *Fishes of Terengganu – East Coast of Malay Peninsula, Malaysia*. National Museum of Nature and Science, Universiti Malaysia Terengganu, Malaysia and Kagoshima University Museum, Japan.

Mohanty, S.R., Mishra, A. & Mohapatra, A. (2020) New record of the genus *Iniistius* Gill, 1862 (Perciformes: Labridae) from Odisha coast. *Records of the Zoological Survey of India*, **120**, 2019–2021.

 © Centre for Biodiversity Conservation, Phnom Penh

Motomura H., Alama, U.B., Muto, N., Babaran, R.P. & Ishikawa S. (2017) *Commercial and Bycatch Market Fishes of Panay Island, Republic of the Philippines*. Kagoshima University Museum, Kagoshima, University of the Philippines Visayas, Iloilo, Research Institute for Humanity and Nature, Kyoto, Japan.

Motomura H., Kimura S., Seah Y.G., Sheikh Abdul Kadir, S.T. & Ghaffar, M.A. (2021) *Reef and Shore Fishes of Bidong Island, off East Coast of Malay Peninsula*. Kagoshima University Museum, Kagoshima, Japan.

Nelson, J.S. (2006) *Fishes of the World*. Fourth Edition. John Wiley & Sons, Hoboken, USA.

Nelson, J.S., Grande, T.C. & Wilson, M.V.H. (2016) *Fishes of the World*. Fifth Edition. John Wiley & Sons, Hoboken, USA.

Parenti, P. & Randall, J.E. (2011) Checklist of the species of the families Labridae and Scaridae: an update. *Smithiana Bulletin*, **13**, 29–44.

Perry, D., Staveley, T.A.B. & Gullström, M. (2018) Habitat connectivity of fish in temperate shallow-water seascapes. *Frontiers in Marine Science*, **4**, 440.

Randall, J.E. & Earle, J.L. (2002) Review of Hawaiian razorfishes of the genus *Iniistius* (Perciformes: Labridae). *Pacific Science*, 56, 389–402.

Randall, J.E. & Jonsson, L. (2008) Clarification of the Western Pacific razorfishes (Labridae: Xyrichtyinae) identified as *Iniistius baldwini, I. evides* and *I. maculosus*. *The Raffles Bulletin of Zoology*, **19**, 179–182.

Serywath S., Rithy M. & Monomoyith T. (2025) Cambodia: *National Context and Current Status of Seagrass and Dugong Conservation*. Unpublished report, Phnom Penh, Cambodia.

Westneat, M.W. (2002) The Wrasses: Family Labridae. In *The Living Marine Resources of the Western Central Atlantic. Volume 3: Bony Fishes Part 2 (Opistognathidae to Molidae), Sea Turtles and Marine Mammals* (ed K.E. Carpenter), pp. 1701–1723. Food and Agriculture Organization of the United Nations, Rome, Italy.

Yoshida T., Motomura H., Musikasinthorn, P. & Matsuura K. (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, Japan.

About the Authors

KE Pheara is a third-year Fisheries Science student in the Faculty of Fisheries and Aquaculture (FoFA) at the Royal University of Agriculture (RUA). His research focuses on marine ichthyology, taxonomy, fish documentation, illustration and photography.

CHHUOY Samol is a fish taxonomist, researcher and lecturer at FoFA, RUA. He is a PhD candidate in Applied Ecology and Management at the Royal University of Phnom Penh (RUPP).

SAY Pisey is a researcher and lecturer at FoFA and a PhD candidate in Agricultural Science at the RUA. He is interested in aquaculture and accelerating the development of this under climate mitigation in tropical regions.

UY Sophorn specialises in fish community and molecular ecology and is a lecturer at FoFA, RUA. He is a PhD candidate in Applied Ecology and Management at the RUPP. His interests include fish community structure, fish body-size and population genetics in support of fisheries management in the lower Mekong river system.

Sebastián Muñoz-Duque is a biologist with an MSc in Marine Biological Resources (Ghent University, Belgium). His research with Marine Conservation Cambodia focuses on fish diversity, artificial reef effects and passive acoustic monitoring in marine habitats.

SUP Mecta is a lecturer at FoFA, RUA. She holds a MSc in Biodiversity Conservation, RUPP and her research interests include fish ecology, biodiversity conservation, water quality, and their links to human livelihoods.

NGOR Peng Bun is an aquatic ecologist, Dean of FoFA, RUA and Director of the Center of Excellence on Fisheries and Aquatic Sciences for Sustainability at RUA. His research focuses on fish community ecology and ecological modelling to support fisheries management and conservation policy in the Mekong Basin.

© Centre for Biodiversity Conservation, Phnom Penh