

Short communication

Survey for Coastal Fishes of Ranong and Phuket Provinces, Thailand in December 2014

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ABSTRACT:- The National Science Museum, Thailand, Kasetsart University, Thailand, the Hokkaido University Museum and the Kyoto University of Japan conducted a joint survey to accumulate knowledge about species diversity of coastal fishes in the Andaman Sea, Thailand in December, 2014. As the result of this survey, 46 species were recorded in 7 orders, 22 families and 36 genera. The species *Bathygobius hongkongensis* Lam, 1986 has been recorded for the first time in the Andaman Sea.

KEY WORDS: Andaman Sea, Indian Ocean, first record, *Bathygobius hongkongensis*.

INTRODUCTION

The Andaman Sea is located along the eastern side of the Indian Ocean and is surrounded northward by the Gulf of Martaban and Myanmar, eastward by Thailand and Malaysia, southward by the northern tip of Sumatra Island, and westward by Andaman and Nicobar Islands. The eastern coastline along Thailand and Malaysia is rather shallow, with an average depth 3 metres of

inshore areas that are of upto 3 kilometers outward, due to sediment contribution from Irrawady delta and rivers of western Tenasserim Hills (Colin *et al.*, 1999). In addition, the shallow-water currents of the area are strongly associated with tidal currents during southwest and northeast monsoons (Panjarat, 2008). Both factors cause enriched particulate and dissolved organic matter in the water, considerably benefiting to diverse corals and high primary productivity (Brown,

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2007). The natural richness supports a vast and dynamic biological habitat including mangroves, seagrass beds, shallow coral reefs, tide pools, rock pools and sandy beaches, all importantly providing settling and spawning nursery sites for several fish species and other marine animals. For these reasons the area is attractive for the scientific community to study, in particular for ecological and biogeographic interests.

The east coast of Andaman has been exhaustively studied for years on the diversity of fish fauna by scientists. Interestingly, results from the different localities in this area mostly showed with such high diversity that the number of species recorded includes hundreds of species. Aglen *et al.* (1981) reported 137 species in 46 families collected from the west coast of Peninsular Malaysia in the trawling surveys of the vessel R/V “Dr Fridtjof Nansen” during July 1980. Satapoomin and Poovachiranon (1997) recorded 280 species in 75 families based on specimens collected from mangroves and seagrass beds in Andaman Sea coast of Thailand. Fish Team of Trang Project (2002) made a listing of 134 estuary species in 49 families in their surveys by using seine and bag nets from Sikao Canal in Trang of Thailand. Matsuura and Kimura (2005) accounted 128 species in 47 families inhabiting in mangroves and seagrass beds of Libong Island in Trang of Thailand. Subsequently, Kimura *et al.* (2009) described 778 species in 106 families found on east coast of Andaman Sea in southern Thailand. By compiled from previous sources of information, Satapoomin (2011) estimated marine fishes in the area to be 1,746 species in 198 families. Currently, Vilasri *et al.* (2015) reported 144 species in 56 families from Phuket and Ranong of Thailand based on specimens collected from local fish markets.

The National Science Museum, Thailand

(NSM), Kasetsart University of Thailand, Hokkaido University Museum (HoUM) and Kyoto University of Japan conducted joint survey in Phuket and Ranong provinces, Thailand in December, 2014. The purpose of this joint survey was to accumulate knowledge about species diversity of coastal fishes in the eastern area of Andaman Sea, Indian Ocean.

As the result of this survey, 46 species were recorded in 7 orders, 22 families and 36 genera. The species *Bathygobius hongkongensis* Lam, 1986 has been recorded for the first time in the Andaman Sea.

MATERIALS AND METHODS

All specimens were collected by a seine net or hand net in nearshore areas of Phuket on 3rd December 2014 and Ranong on 6th and 7th December 2014 (Fig. 1). These specimens were preserved in 50% isopropyl alcohol after fixation by 10% formalin. These specimens were deposited in fish collection of the Natural History Museum, The National Science Museum, Thailand (THNHM). Collection data of specimens shows locality followed by date in parentheses.

Counts and proportional measurements follow Hubbs and Lagler (1958), all measurements are detailed in millimetres (mm) and were measured to the nearest 0.1 mm with digital calipers and dividers. Standard length is abbreviated as SL. Systematic arrangements follow Nelson (2006).

SPECIES LIST

Class Actinopterygii **Order Clupeiformes** **Family Pristigasteridae**

Ilisha sirishai Seshagiri Rao, 1975: THNHM-F0013016 18, 3 specimens, 39.0–41.8 mm



Figure 1. Seine net at Ranong on 6th December 2014.

SL, Ranong (6).

Family Engraulidae

Stolephorus andhraensis Babu Rao, 1966: THNHM-F0013019, 1 specimen, 32.5 mm SL, Ranong (6).

Stolephorus indicus (van Hasselt, 1823): THNHM-F0013020 39, 20 specimens, 27.8–48.9 mm SL, Ranong (6).

Thryssa setirostris (Broussonet, 1782): THNHM-F0013040–0013046, 7 specimens, 24.8–68.0 mm SL, Ranong (6).

Order Mugiliformes **Family Mugilidae**

Chelon macrolepis (Smith, 1846): THNHM-F0013047, 0013048, 2 specimens, 31.2–32.1 mm SL, Phuket (3); THNHM-F0013049–0013060, 12 specimens, 23.6–

37.2 mm SL, Ranong (6).

Ellochelon vaigiensis (Quoy and Gaimard, 1825): THNHM-F0013061–0013067, 7 specimens, 15.5–23.7 mm SL, Phuket (3); THNHM-F0013068, 0013069, 2 specimens, 29.5–30.9 mm SL, Ranong (6); THNHM-F0013070–0013076, 7 specimens, 17.6–53.6 mm SL, Ranong (7); THNHM-F0013077–0013080, 4 specimens, 23.7–32.4 mm SL, Ranong (7).

Order Atheriniformes **Family Atherinidae**

Atherion elymus Jordan and Starks, 1901: THNHM-F0013081–0013089, 9 specimens, 21.4–35.2 mm SL, Ranong (7).

Order Beloniformes **Family Hemiramphidae**

Hyporhamphus affinis Günther, 1866: THNHM-F0013090–0013092, 3 specimens, 158.4–176.0 mm SL, Ranong (7).

Hyporhamphus quoyi (Valenciennes, 1847): THNHM-F0013093–0013103, 11 specimens, 102.6–195.5 mm SL, Ranong (7).

Zenarchopterus buffonis (Valenciennes, 1847): THNHM-F0013104, 0013105, 2 specimens, 37.5–47.4 mm SL, Phuket (3).

Order Gasterosteiformes

Family Syngnathidae

Corythoichthys haematopterus (Bleeker, 1851): THNHM-F0013106–0013114, 9 specimens, 102.5–116.8 mm SL, Phuket (3).

Order Perciformes

Family Ambassidae

Ambassis urotaenia Bleeker, 1852: THNHM-F0013115–0013125, 11 specimens, 17.4–27.1 mm SL, Phuket (3).

Ambassis vachellii Richardson, 1846: THNHM-F0013126–0013129, 4 specimens, 24.8–35.2 mm SL, Phuket (3).

Family Apogonidae

Fibramia lateralis (Valenciennes, 1832): THNHM-F0013130–0013133, 4 specimens, 51.1–66.1 mm SL, Phuket (3).

Family Sillaginidae

Sillago aeolus Jordan and Evermann, 1902: THNHM-F0013134, 0013135, 2 specimens, 58.1–62.4 mm SL, Ranong (7).

Sillago intermedius Wongratana, 1977: THNHM-F0013136–0013155, 20 specimens, 30.1–47.9 mm SL, Ranong (7).

Sillago sihama (Forsskål, 1775): THNHM-F0013156–0013160, 5 specimens, 22.8–47.4 mm SL, Phuket (3); THNHM-F0013161–0013169, 9 specimens, 24.8–71.5 mm SL, Ranong (6); THNHM-F0013170,

1 specimen, 91.8 mm SL, Ranong (7); THNHM-F0013171–0013175, 5 specimens, 28.4–56.9 mm SL, Ranong (7).

Family Carangidae

Caranx melampygus Cuvier, 1833: THNHM-F0013176, 1 specimen, 116.4 mm SL, Ranong (7).

Scomberoides tol (Cuvier, 1832): THNHM-F0013177, 1 specimen, 64.4 mm SL, Ranong (7).

Trachinotus baillonii (Lacepède, 1801): THNHM-F0013178–0013181, 4 specimens, 90.8–97.6 mm SL, Ranong (7).

Trachinotus blochii (Lacepède, 1801): THNHM-F0013182, 0013183, 2 specimens, 78.4–79.7 mm SL, Ranong (7).

Trachinotus mookalee Cuvier, 1832: THNHM-F0013184, 1 specimen, 46.8 mm SL, Ranong (6); THNHM-F0013185–0013187, 3 specimens, 47.4–61.7 mm SL, Ranong (7).

Family Leiognathidae

Aurigequula fasciata (Lacepède, 1803): THNHM-F0013188–0013192, 5 specimens, 45.6–50.8 mm SL, Ranong (6).

Aurigequula longispina (Valenciennes, 1835): THNHM-F0013193–0013195, 3 specimens, 57.5–63.5 mm SL, Ranong (6).

Leiognathus equulus (Forsskål, 1775): THNHM-F0013196–0013216, 21 specimens, 23.8–61.8 mm SL, Phuket (3).

Nuchequula gerreoides (Bleeker, 1851): THNHM-F0013217, 0013218, 2 specimens, 44.3–50.3 mm SL, Ranong (6).

Secutor megalolepis Mochizuki and Hayashi, 1989: THNHM-F0013219–0013229, 11 specimens, 37.6–58.1 mm SL, Ranong (6).

Family Lutjanidae

Lutjanus lemniscatus (Valenciennes, 1828): THNHM-F0013230, 1 specimen, 82.0 mm SL, Ranong (7).

Family Gerreidae

Gerres oblongus Cuvier, 1830: THNHM-F0013231–0013244, 14 specimens, 20.8–24.8 mm SL, Ranong (6); THNHM-F0013245–0013250, 6 specimens, 21.7–138.8 mm SL, Ranong (7).

Gerres oyena (Forsskål, 1775): THNHM-F0013251–0013270, 20 specimens, 11.3–34.4 mm SL, Phuket (3); THNHM-F0013271, 1 specimen, 18.3 mm SL, Ranong (6); THNHM-F0013272–0013275, 4 specimens, 11.5–17.4 mm SL, Ranong (7).

Family Sciaenidae

Johnius amblycephalus (Bleeker, 1855): THNHM-F0013276–0013280, 5 specimens, 25.5–42.2 mm SL, Ranong (6).

Family Terapontidae

Terapon jarbua (Forsskål, 1775): THNHM-F0013281, 0013282, 2 specimens, 30.2–46.3 mm SL, Ranong (7).

Family Pomacentridae

Abudefduf vaigiensis (Quoy and Gaimard, 1825): THNHM-F0013283–0013285, 3 specimens, 53.7–62.1 mm SL, Ranong (7).

Pomacentrus tripunctatus Cuvier, 1830: THNHM-F0013286, 1 specimen, 61.3 mm SL, Ranong (7).

Family Labridae

Halichoeres argus (Bloch and Schneider, 1801): THNHM-F0013287, 0013288, 2 specimens, 39.7–46.6 mm SL, Phuket (3).

Halichoeres nigrescens (Bloch and Schneider, 1801): THNHM-F0013289, 1 specimen, 68.6 mm SL, Ranong (7).

Family Blenniidae

Istiblennius dussumieri (Valenciennes, 1836): THNHM-F0013290, 0013291, 2 specimens, 40.7–48.7 mm SL, Phuket (3); THNHM-F0013292–0013294, 3 specimens, 20.9–34.4 mm SL, Ranong (7).

Omobranchus elongatus (Peters, 1855): THNHM-F0013295, 1 specimen, 35.4 mm SL, Phuket (3).

Petroscirtes mitratus Rüppell, 1830: THNHM-F0013296, 1 specimen, 48.3 mm SL, Phuket (3).

Family Gobiidae

Bathygobius hongkongensis Lam, 1986 (Fig. 2): THNHM-F0013297, 1 specimen, 32.5 mm SL, Ranong (7); THNHM-F0013298–0013309, 12 specimens, 17.1–30.3 mm SL, Phuket (3).

Description, meristics: dorsal fin VI-I, 9–10; anal fin I, 7–8; pectoral fin 20–22; pelvic fin I, 5; vertebrae 26–27. Measurements (%SL): body depth 17.7–21.8; head length 29.1–31.3; predorsal length 36.4–41.0; preanal length 49.9–56.2; snout length 5.8–9.2; upper jaw length 7.6–10.2; orbital diameter 7.0–9.3; interorbital width 0.9–2.3; caudal peduncle depth 10.3–16.2; caudal peduncle length 21.5–24.9; length of first spine of first dorsal fin 11.1–14.8 (n=11); length of second spine of first dorsal fin 11.6–15.9 (n=12); length of first spine of second dorsal fin 6.5–16.6 (n=12); length of base of first dorsal fin 11.1–22.6; length of base of second dorsal fin 15.7–24.5; length of first spine of anal fin 4.3–13.7; length of base of anal fin 13.3–17.1; pectoral fin length 23.5–28.1; pelvic fin length 17.7–23.0.

Remarks. *Bathygobius hongkongensis* had been known from Pakistan (Indian Ocean), and Gulf of Thailand, Hong Kong, northern Taiwan and southern Japan (Pacific) (Lam, 1986; Hoda and Goren, 1990; Akihito *et al.*, 2013). Therefore, this report is the first record of this species from Andaman Sea.



Figure 2. *Bathygobius hongkongensis*, THNHM-F0013297, 32.5 mm SL.

Cabillus tongarevae (Fowler, 1927): THNHM-F0013310, 0013311, 2 specimens, 15.3–22.0 mm SL, Phuket (3).

Istigobius ornatus (Rüppell, 1830): THNHM-F0013312–0013319, 8 specimens, 28.6–64.9 mm SL, Phuket (3).

Valenciennea sexguttata (Valenciennes, 1837): THNHM-F0013320, 1 specimen, 54.0 mm SL, Phuket (3).

Family Siganidae

Siganus canaliculatus (Park, 1797): THNHM-F0013321–F0013325, 5 specimens, 46.0–65.7 mm SL, Phuket (3).

Family Sphyaenidae

Sphyaena barracuda (Edwards, 1771): THNHM-F0013326–0013329, 4 specimens, 37.2–60.0 mm SL, Phuket (3).

Order Tetraodontiformes

Family Tetraodontidae

Lagocephalus lunaris (Bloch and Schneider, 1801): THNHM-F0013330, 1 specimen, 36.5 mm SL, Ranong (6).

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