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Short Communication

First report of Gold spotted anchovy *Coilia dussumieri* Valenciennes, 1848 (Clupeiformes: Engraulidae) from Andaman and Nicobar Islands, India

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The present study reports the occurrence of Gold spotted grenadier anchovy *Coilia dussumieri* Valenciennes, 1848 for the first time from the Andaman and Nicobar Islands, India based on three specimens (Standard length = 124.3 – 134.7 mm) collected from Junglighat fish landing Centre, Port Blair. Description of the species has been provided herewith along with the morphometric measurements and meristic characters. Only one species of the genus *Coilia* (*Coilia ramcarati* Hamilton 1820) was known from Andaman and Nicobar Islands earlier and the present report adds a new record to the ichthyofaunal list of Andaman and Nicobar Islands, India.

[**Keywords**: Andaman Island, Engraulidae, India, Morphometrics]

Introduction

Fishes of the family Engraulidae, commonly known as anchovies or engraulids, are small to moderate-sized fishes characterized by having a common prominent snout overhanging the mouth[1]. About seventeen species are freshwater, occasionally entering brackish water; the others are marine, rarely entering freshwater[2]. The family Engraulidae comprises sixteen valid genera, and 177 valid species have been known globally[3]. In Indian waters, the family is represented by 34 species belonging to five genera[4]. A total of 12 species of Engraulidae fishes have been recorded from the Andaman and Nicobar islands[5]. The fishes of the genus *Coilia* Gray, 1831 commonly known as rat-tailed anchovies are of importance in the coastal fisheries of India[6]. About 13 species of the genus *Coilia* are valid worldwide[7]. From the coasts of India, four species of *Coilia* has been recorded[8] out of which only one species (*Coilia ramcarati* Hamilton 1822) has been reported from Andaman and Nicobar Islands[5]. Present study reports the distribution and first occurrence record of *C. dussumieri* from Andaman and Nicobar Islands, India.

Material and Methods

Three fish specimens of *Coilia dussumieri* Valenciennes, 1848 have been collected from Junglighat fish landing Centre (11°39'23.6" N, 92°43'30.9" E), Port Blair, South Andaman district on 27th August, 2022. Post collection, the specimens were photographed in fresh condition and then preserved in 10% formaldehyde solution. For morphometric measurements and counts Hubbs & Lagler methodology[9] was followed. The specimens were identified following the standard literatures[10] and Eschmeyer's Catalog of fishes[11] was referred for the scientific names. The digital caliper (Mitutoyo) was used for the measurement of the morphometric characters nearest to 0.1 millimeters. Morphometric measurements and meristic counts of the species are presented in Table 1.

Systematic account

Order: Clupeiformes Goodrich, 1909
Family: Engraulidae Gill, 1861
Genus: Coilia Gray, 1830
Coilia dussumieri Valenciennes 1848 (Fig. 1, Table 1)
English name: Goldspotted grenadier anchovy

Coilia dussumieri Valenciennes 1848

1848 *Coilia dussumieri* Valenciennes, Histoire naturelle des poissonsv, v 21:81, pl.610 (type locality: Mumbai, India)

Material examined

Three unsexed specimens, 124.3 – 134.7 mm SL, Junglighat fish landing Centre, (11°39'23.6" N, 92°43'30.9" E), Port Blair, Andaman, and Nicobar Island, Reg. no. ZSI/ANRC/M-28325, 27/viii/2022.

Results and Discussion

Diagnosis

D 8 – 9 ; P v – vi, 8; A 76 – 81; C 12 – 13; V i, 6; GR 17 + 25; Scutes 5 – 6 + 6 – 7. In percentage of standard length body at dorsal origin ranged from 21.15 to 22.09; head length ranged from 16.98 to 18.68; eye diameter 3.99 to 4.11; pectoral fin length

Table 1 — Morphometric measurements of *Coilia dussumieri* Valenciennes, 1848 from Andaman Nicobar Island, India

Morphometric characters	Range	Mean±SD
Total length	135.47 – 146.11	139.16±1.025
Standard length	124.25 – 135.71	129.04±1.957
In % of standard length (% SL)		
Body depth at dorsal origin	21.15 – 22.09	21.475±0.533
Body depth at anus	15.91 – 18.20	17.214±1.177
Body width	5.88 – 6.53	6.251±0.330
Head length	16.98 – 18.68	17.762±0.861
Head depth	9.74 – 12.18	10.680±1.312
Head width	7.29 – 7.63	7.420±0.190
Eye diameter	3.99 – 4.11	4.041±0.063
Dorsal fin length	10.67 – 11.48	11.064±0.405
Pectoral fin length	16.93 – 35.09	24.651±1.385
Pelvic fin length	3.79 – 5.80	4.792±1.007
Anal fin length	60.83 – 68.04	64.384±2.604
Caudal fin length	4.01 – 7.54	5.428±1.866
Pre dorsal length	27.46 – 29.86	28.628±1.202
Pre pectoral length	16.27 – 17.67	17.162±0.768
Pre pelvic length	27.36 – 29.39	28.561±1.063
Pre anal length	37.00 – 38.21	37.634±0.604
Post dorsal length	56.98 – 69.32	61.677±2.682
Pre orbital length	2.33 – 3.50	2.946±0.584
Post orbital length	9.69 – 11.30	10.684±0.864
Length of base of dorsal fin	6.23 – 7.28	6.553±0.638
Length of base of anal fin	60.58 – 65.37	62.689±2.379
Length of longest fin ray	28.56 – 30.78	29.620±1.115
Inter orbital width	2.52 – 2.93	2.792±0.230
Depth of caudal peduncle	1.11 – 1.45	1.331±0.185

Fig. 1 — Photograph of *Coilia dussumieri* Valenciennes, 1848: (a) Fresh specimen, and (b) Preserved specimen from Andaman and Nicobar Island, India

(longest filament) 16.93 – 35.09, pelvic fin length 3.79 – 5.80; pre dorsal length 27.46 – 29.86; pre pelvic distance 27.46 – 29.39; and pre anal distance ranged from 37.0 to 38.2. Body compressed, its deepest depth below the dorsal origin, tapering gradually to tail. Belly is slightly convex, compressed from below pectoral fin origin to vent. Lower jaw slender, with a series of small conical teeth. Maxilla reaches gill opening, extending well beyond second supra maxilla and tapering gradually. A single series of fine teeth along lower edge of maxilla. Two supra maxillae, the anterior small and posterior slender anteriorly and expanding posteriorly, the anterior portion being hidden behind the maxilla when viewed from outer side. Scutes sharply keeled begin behind the pectoral region. Distance from snout tip to dorsal fin origin about four times in Total length. Pectoral fin with 5 – 6 free filaments, the longest filament reaches the middle of the anal fin. Pelvic fin is short, less than postorbital length of head.

Colour

Dorsal side brownish, flanks yellowish with silvery reflections during life, becoming deep yellow on vertical side before anal. A series of 20 – 26 pearly spots beginning slightly above base of pectoral, a second series of 23 – 28 spots beginning just behind pectoral base and extending beyond the first series. About four spots on either side of isthmus which is roughly in line with the third series. A row of 7 spots on either side of lower side lower jaw ventrally. A patch of brownish dots is present on the snout (Fig. 1a & b).

Distribution

The species is reported from the Indian Ocean: India, Myanmar, Thailand and Malaysia. Western Central Pacific: Thailand to Java, presumably also Kalimantan). Valenciennes listed a specimen from Mahé which lies to the south of Cannanore, India[8].

Remarks

From Indian coastal waters except Andaman and Nicobar islands, four species of the genus *Coilia* were reported *viz*. *Coilia ramcarati* (Hamilton, 1822), *C. reynaldi* Valenciennes, 1848, *C. neglecta* Whitehead, 1968 and *C. dussumieri* Valenciennes, 1848[(ref 7)]. Among them *C. dussumieri* is the only species which has pearly spots on the flanks region. *C. dussumieri* shares similar meristic and morphometric characteristics with *C. neglecta*. However *C. neglecta* has no pearly spot (light organs) on flanks in

C. neglecta. *C. dussumieri* can be distinguished from *C. ramcarati* by having low pelvic fin count (i,6 vs. i,8 – 9 in *C. dussumieri* and *C. ramcarati*). About 12 species of the family Engraulidae have been recorded from the Andaman and Nicobar islands and only one species of the genus *Coilia* (*Coilia ramcarati*) was known from this island groups[5]. The genus *Coilia* was systematically studied by Rao[6] and described five species, these are *C. ramcarati*, *C. korua*, *C. reynaldi*, *C. neglecta* and *C. dussumieri* form the Indian mainland states. This study confirms the first report and distributional record of *C. dussumieri* from Andaman and Nicobar Island having pearly spots in flank region.

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Conflict of Interest

Authors don't have any conflict of interest.

Ethical Statement

The dead specimens were collected from the fish landing centre following scientific collection ethics.

Author Contributions

MKD: Sample collection and preservation, identification and manuscript preparation and CS: Reviewing the manuscript.

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