




## Occurrence record and range extension of *Pomadasys andamanensis* McKay & Satapoomin, 1994 (Heamulidae: Haemulinae) from Great Nicobar Island, India

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### Abstract

Present study reports the occurrence of Andaman grunt, *Pomadasys andamanensis* McKay & Satapoomin, 1994 for the first time from Indian waters based on one specimen (standard length 156.27 mm) collected from Great Nicobar Island, Andaman and Nicobar Island. This finding represents a new addition to the grunt fish fauna of Andaman and Nicobar Island, India. The species is distinguished from its congeners by having four separated longitudinal black stripes on the dorsal half of the body. The detailed morphological features of *P. andamanensis* are provided and compared with its previous records. Description and figures of the species are provided herewith along the morphometric measurements and meristic counts.

**Keywords:** first report; grunt; Heamulidae; Nicobar Island

### 1 | INTRODUCTION

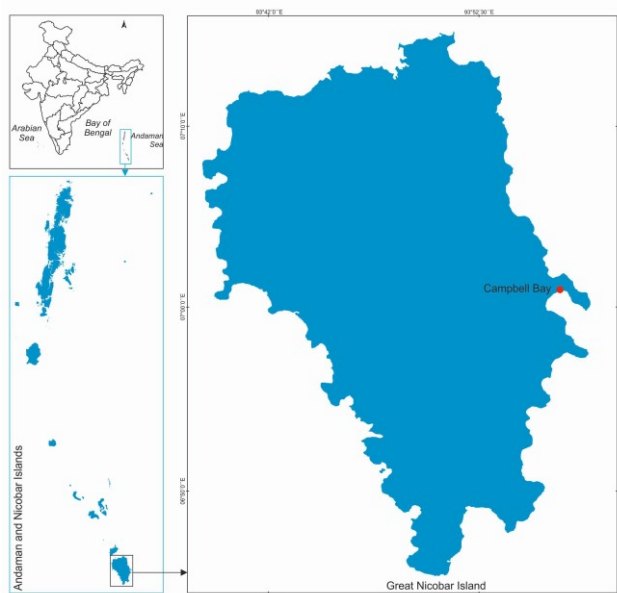
Family Heamulidae commonly known as grunts comprises 137 valid species representing 21 genera distributed worldwide which consists of two subfamilies, Haemulinae with 95 valid species and the Plectorhinchinae which has 42 species (Fricke *et al.* 2022). The fishes of the genus *Pomadasys* (family Heamulidae) are widely distributed in inshore bays, and estuaries of the tropical Indo-West Pacific (McKay 2001). The genus *Pomadasys* has 30 valid species found in inshore bays and estuaries of the eastern Atlantic to the Indo-West Pacific (McKay 2001; Fricke *et al.* 2022). Amongst 30 valid species, 9 species of genus *Pomadasys* have been recorded from Indian waters (Mohapatra *et al.* 2020). From Andaman and Nicobar islands only six *Pomadasys* species have been reported so far (Rajan *et al.* 2013 and 2021) viz. *P. argenteus* (Forsskål, 1775), *P. argyeus* (Valenciennes, 1833), *P. furcatus* (Bloch

& Schneider, 1801), *P. guoraca* (Cuvier, 1829), *P. kaakan* (Cuvier, 1830) and *P. maculatus* (Blotch, 1793). *Pomadasys andamanensis* was first described based on a single individual from Phuket Island, Thailand (McKay and Satapoomin 1994). So far, *P. andamanensis* was reported from Northeastern Indian Ocean: Bangladesh, Myanmar and west coast of Thailand, Andaman Sea (Fricke *et al.* 2022). During the sampling conducted at Campbell Bay, Great Nicobar Island, a dark black four lined grunt specimen was collected and subsequently identified as *P. andamanensis* which have not been recorded from Andaman and Nicobar Island, Indian waters. The present work reports the presence of *P. andamanensis* from Great Nicobar Island, as new record for India.

### 2 | METHODOLOGY

During survey in Great Nicobar Island, one specimen of *P.*

*andamanensis* was collected from Campbell Bay fish Market (7°0'40.7304"N 93°55'38.946"E), Great Nicobar (Figure 1), India on 13 January 2022. The collected specimen was photographed and preserved in 10% formalin for further study. For meristic and morphometric measurements Hubbs and Lagler (2004) and McKay and Randall (1995) were followed. Morphometric measurements were taken by a digital calliper to the nearest 0.1 mm and the results are expressed in % of standard length. The identification of the specimen was based on the morphometric and meristic characters. The diagnostic features that were used in the morphological identification of specimens were based on McKay and Satapoomin (1994) and Iwatsuki *et al.* (1999). Classification of the species is based on Catalogue of Fishes (Fricke *et al.* 2022). The identified specimen was registered and deposited in the National Zoological Collections of Andaman & Nicobar Regional Centre, Zoological Survey of India with registration number ZSI/ANRC/M/28300.



**FIGURE 1** Map of Great Nicobar Island showing the sampling point (red dot).

### 3 | RESULTS AND DISCUSSION

The species *P. andamanensis* is reported here for the first time from India waters on the basis of single specimen collected from Campbell Bay, Great Nicobar Island. Morphometric and meristic measurements of the collected specimen expressed as percentages of standard length (% SL) have been given in Table 1. Dorsal fin spine 12; dorsal fin soft rays 14, anal fin spine 3, anal fin soft rays 8; pectoral fin rays 17; ventral fin spine 1, ventral fin soft rays 5, pored lateral-line scales 53, gill rakers 5+13; scales above lateral line 7 and scales below lateral line 14. Four longitudinal dark black stripes are present on the dorsal half of the body. Body deep, compressed, covered with ctenoid scales. The greatest body depth 43.6 in % SL; second anal

fin spine length 21.7 in % SL. Body depth is greater than head length. Dorsal profile of the head is straight. Mouth is small, sub-terminal, without fleshy lips; posterior tip of maxilla just crossing anterior margin of orbit. Chin with 2 pores followed by central longitudinal groove. Eye and pupil round, eye diameter is larger than interorbital width. Nostrils close to each other, slit-like, anterior to orbit. Caudal fin slightly forked. Lateral line is continuous, running parallel with contour of back, straightening along caudal peduncle. Posterior margin of preopercle serrated. Scale covering the body, pectoral-fin base, thoracic region, caudal-fin base, opercular bones, cheek, and the head. Scales on top of the head extending anteriorly just behind the eye. Dorsal and anal fins each with a low scaly sheath, rows of small inter-radial scales in soft portions. No canine teeth in jaws, small conical teeth present in narrow bands anteriorly, outermost row much enlarged.

Body pale silvery grey in colour with four black or dark brown stripes horizontally on dorsal half of body; first stripe along spiny dorsal-fin base from nape to base of 10th dorsal spine, second stripe from nape to mid base of soft dorsal fin, third stripe from above eye to posterior end of soft dorsal fin base, continuing up to upper caudal fin base, fourth stripe falling obliquely from dorsal margin of eye to upper-middle part of opercle, then straight to mid-base of caudal fin; three faint stripes present on soft part of dorsal fin, uppermost stripe forming a black margin; inter-spinous membrane of dorsal fin narrowly black-edged; anterior two-thirds of soft anal fin black in colour; pelvic fin with some anterior dusky markings; upper inner base of pectoral fin brown. Caudal fin dusky with a blackish margin; snout silvery-white with black or dark stripe dorsally (Figures 2a and 2b).



**FIGURE 2** Fresh (a; above) and formalin-preserved (b; below) specimen of *Pomadasys andamanensis*, collected from Great Nicobar Island.

Grunt species (Family Haemulidae) are one of the commercially important fish group in India. Grunt fishes inhabit bottoms of near shore tropical, subtropical, brackish, and warm temperate waters (McKay 1984; Froese and Pauly 2022). Habib *et al.* (2021) studied grunts of Bangladesh with two new distributional records from the northern Bay of Bengal. Hasan *et al.* (2022) reported range extension of the rare Andaman grunt, *Pomadasys andamanensis* McKay and Satapoomin 1994, to the Bangladesh coast of the north-eastern Bay of Bengal. From the India waters only 28 species Haemulids under 3 genera were found (Gopi and Mishra 2015). In the present study,

most of the morphometric measurements and meristic counts conform to those in McKay and Satapoomin (1994) and Iwatsuki *et al.* (1999). The species *P. andamanensis* shows similarity with *Pomadasys furcatus* (Bloch and Schneider 1801). But it can be distinguished by having four undivided dark black longitudinal stripes versus six to seven longitudinal brown stripes in *P. furcatus*. The present finding constitute the first record of *P. andamanensis* from Andaman and Nicobar Islands, India beyond its known geographical range and thus adds to the knowledge of the ichthyofaunal diversity of Andaman and Nicobar Island, India.

**TABLE 1** Morphometric measurements and counts of *Pomadasys andamanensis* McKay & Satapoomin, 1994 specimen collected from Campbell Bay, Great Nicobar compared with other published data.

Measurements	Great Nicobar (present study; n = 1)	Holotype (McKay and Satapoomin 1994)	Bangladesh (Hasan <i>et al.</i> 2022; n = 16)
Standard length (mm)	156.27	154	82 – 129
<b>Measurements % SL</b>			
Body depth (maximum)	43.69	42.1	40.4 – 44.2
Body depth at first anal fin spine	35.05	34.5	32.1 – 35.8
Head length	34.28	31.7	32.1 – 35.8
Body width	19.22	15.9	15.2 -17. 9
Snout length	10.70	9.0	8.6 – 10.7
Eye diameter	10.68	9.9	8.7 -11.3
Pre orbital depth	6.96	6.3	5.9 – 7.6
Interorbital width	9.43	8.3	6.38 – 8.5
Upper jaw length	9.89	8.5	8.9 – 10.5
Caudal peduncle depth	11.53	11.4	11.5 – 12.6
Caudal peduncle length	18.23	17.8	16.8 – 18.8
Predorsal length	42.62	42.3	39.7 -43.0
Preanal length	65.32	63.1	69.8 -71.7
Pre pelvic length	38.29	35.1	36.3 – 41.5
Dorsal fin base length	57.69	56.3	54.4 – 60.2
Anal fin base	16.34	16.7	15.7 – 18.3
Caudal fin length	22.74	20.1	24.6 – 28.0
Pelvic fin spine length	13.52	13.2	13.8 – 16.9
First pelvic fin ray length	28.94	28.7	23.1 – 27.4
First dorsal fin spine length	5.40	5.3	3.6 – 7.4
Second dorsal fin spine length	9.64	9.8	9.1 -12.7
Third dorsal fin spine length	17.06	17.5	15.8 -18.6
Longest dorsal fin spine length 4th	17.82	18.0	17.1-19.9
Last dorsal fin spine length	8.09	8.2	7.5 – 10.8
First anal fin spine length	9.37	9.5	8.0 – 10.2
Second anal in spine length	21.76	22.2	19.5 - 23.4
Third anal fin spine length	13.48	13.1	9.6 – 14.3
<b>Meristic characters</b>			
Dorsal-fin rays	XII,14	XII,14	XII, 13 -14
Anal fin rays	III, 8	III, 8	III, 7 - 8
Pectoral fin rays	17	17	17
Pelvic fin rays	I, 5	I, 5	I, 5
Pored lateral line scales	53	53	49 - 51
Scale above and below lateral line	7/14	7/14	7/14
Gill rakers	5+13	5+13	5+12

**CONFLICT OF INTEREST**

The author declares no conflict of interest.

**AUTHORS' CONTRIBUTION**

MKD collected the specimen, identified the species, preserved the specimen and prepared the manuscript; CS reviews the manuscript.

**DATA AVAILABILITY STATEMENT**

The data that support the findings of this study are available in National Zoological Collections of Zoological Survey of India, Andaman and Nicobar Regional Centre, Port Blair-744102, Andaman and Nicobar Islands, India, with the registration number ZSI/ANRC/M/28300.

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