

## Research

# Taxonomic documentation on the lesser-known jobfishes *Pristipomoides auricilla* and *Pristipomoides multidentis* from the southeastern Arabian Sea

Akshaya Vijayan<sup>1,2</sup> · Livi Wilson<sup>1</sup>  · S. Pakkiri Muthu<sup>1</sup> · Shoba Joe Kizhakudan<sup>1</sup>

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## Abstract

Goldflag jobfish *Pristipomoides auricilla* (Jordan, Evermann and Tanaka, 1927) and goldbanded jobfish *Pristipomoides multidentis* (Day, 1871) were recently recorded from the southeastern Arabian Sea, marking an occasional occurrence. The samples of *P. auricilla* and *P. multidentis* were collected from the hook and line fishery off Kochi, southwest coast of India and described here based on the morphometric and meristic characteristics. *P. auricilla* is distinguished by a triangular vomerine tooth patch, 73–74 lateral-line scales, and 28 gill rakers (10 + 18), whereas *P. multidentis* differs by having 51 lateral-line scales, 19 gill rakers (8 + 11), and two prominent golden bands on the snout and cheek. This study provides specimen-based confirmation of *P. auricilla* from the southeastern Arabian Sea and clarifies its range extension into Indian waters, while also documenting the verified occurrence of *P. multidentis* at Kochi—where it had not been previously collected—along with comparative diagnostic features for accurate identification. The insights from this work are vital for effective fishery management and conservation strategies, particularly in the context of India's rich but underexplored marine ecosystems. Furthermore, this research contributes to global efforts in monitoring and assessing deep-water snapper species.

**Keywords** Snappers · Hook and line fishery · Morphometric characteristics · Occasional occurrence

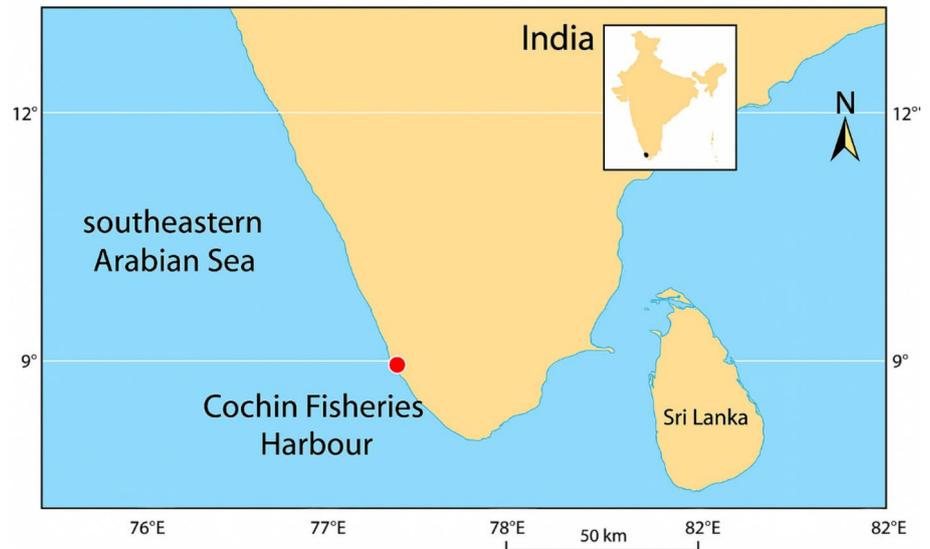
## 1 Introduction

The family Lutjanidae, comprising 21 genera and 138 valid species, falls under the order Acanthuriformes and is predominantly found on coral reefs in tropical and subtropical regions of the Atlantic and Indo-Pacific [5]. Although particular species can be found in deeper waters up to 500 m, most lutjanid species reside above 100 m close to coral reefs. Globally, there are 12 species of snappers reported in the genus *Pristipomoides* Bleeker, 1852 [2, 5, 16]. Numerous studies have explored the taxonomy of the Lutjanid fish genus *Pristipomoides* globally [1, 7, 8, 15, 17], with recent research focusing on phylogenetic relationships [6, 10]. The genus *Pristipomoides* comprises ecologically important species that contribute to deep-sea food-web dynamics and commercially valuable snappers that support artisanal and industrial fisheries; however, the group remains poorly studied in Indian waters, with only limited taxonomic investigations reported to date [4, 18]. The present study documents the diagnostic characteristics of *Pristipomoides auricilla* and *P. multidentis* from the southeastern Arabian Sea, contributing to the limited taxonomic data on the genus in Indian waters.

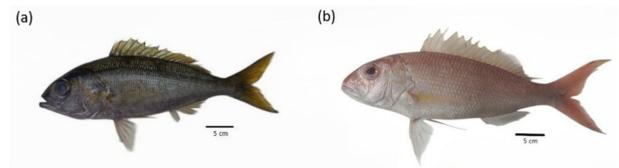
✉ Livi Wilson, liviwilson@gmail.com | <sup>1</sup>ICAR-Central Marine Fisheries Research Institute, Kochi, India. <sup>2</sup>Kerala University of Fisheries and Ocean Studies, Kochi, India.



**Fig. 1** Map showing the sampling location Cochin Fisheries Harbour, Kerala, India



**Fig. 2** *Pristipomoides auricilla* (a) and *Pristipomoides multidens* (b) collected from the Cochin Fisheries Harbour, Kerala



## 2 Materials and methods

Five specimens of *P. auricilla* (293–345 mm SL) and two specimens of *P. multidens* (420–415 mm SL) were collected from the Cochin fisheries harbour (9.9391° N, 76.2627° E) along the southwest coast of India (Fig. 1). The fishing gear employed was hook and line from a depth range of 80–120 m during October 2022. Morphometric and meristic data were recorded following Allen [2], and the colour of the specimens was noted in fresh condition. Following accurate identification, the specimens were preserved in 10% formalin and deposited in the fish collection of the Finfish Fisheries Division (As. No. FFD/SN/023-024) at Central Marine Fisheries Research Institute, Kochi, India.

## 3 Results and discussion

### *Pristipomoides auricilla* (Jordan, Evermann & Tanaka, 1927)

(Goldflag jobfish) (Fig. 2a)

#### 3.1 Taxonomy

Class: Teleostei

Order: Eupercaria incertae sedis

Family: Lutjanidae Gill, 1861

Genus: *Pristipomoides* Bleeker, 1852

Species: *Pristipomoides auricilla* (Jordan, Evermann & Tanaka, 1927)

*Arnillo auricilla* Jordan, Evermann, and Tanaka, 1927

### 3.2 Description

Body elongate, laterally compressed; dorsal fin yellow, continuous, not deeply incised at spinous–soft junction. Last soft ray of dorsal and anal fins markedly longer than preceding rays; caudal fin forked. Interorbital space flattened; jaws equal or lower jaw slightly protruding. Upper and lower jaws with outer patches of canine–conical teeth; inner mouth with villiform teeth. Vomerine tooth patch triangular shaped vertex pointing forward; tongue toothless. First gill arch with 10 + 18 gill rakers. Pectoral fin elongate, reaching base of 10th dorsal-fin ray. Scale rows below lateral line to first anal spine 17½; scale rows above lateral line to first dorsal spine 6½. Lateral-line scales 73–74. Dorsal fin X, 11; anal fin III, 8; pelvic fin I, 5; pectoral fin 14–15. Body brownish-purple or olive-green with yellow spots or chevron-shaped bands. First band beginning before upper lip; second band entering posterior nostril, forming two horizontal yellow bands from snout through eye to operculum. Caudal-fin upper lobe yellow with purple margin. Pectoral fins pale; anal-fin rays dark, membrane yellow.

### 3.3 Remarks

*Pristipomoides auricilla* can be distinguished from other species in the genus *Pristipomoides* by its distinctive yellow blotches and spots on the body and the upper caudal fin lobe. Although the lateral line scale count of *P. auricilla* (73–74) overlaps with that of *P. sieboldii* (73), the two species can be distinguished by external features, notably the presence of yellow blotches and spots on *P. auricilla*.

#### ***Pristipomoides multidentis* (Day, 1871)**

**(Gold banded jobfish)** (Fig. 2b)

### 3.4 Taxonomy

Class: Teleostei

Order: Eupercaria incertae sedis

Family: Lutjanidae Gill, 1861

Genus: *Pristipomoides* Bleeker, 1852

Species: *Pristipomoides multidentis* (Day, 1871)

*Mesoprion multidentis* Day, 1871

### 3.5 Description

Body elongate and robust; head length 35.16–35.33 in standard length (SL); interorbital space flat and 8.06–8.93 in SL. Eye diameter 9.44–9.56 in SL and snout 11.83–11.90 SL. Lower jaw slightly protruding; both jaws with outer rows of conical teeth, pair of bigger canines well apart from each other situated near anterior end of both upper and lower jaws. Vomerine teeth in triangular villiform patch; tongue without teeth. Dorsal and anal fin base without scales. Last soft ray of dorsal and anal fins extend into short filaments. Caudal fin deeply forked. Lateral line scales 51; 6 rows of scales in cheek; scales above lateral line 6 and below lateral line 13. Body silver-pink. Six longitudinal yellow bands along the body, two golden bands edged with dark blue on snout and cheek, and brownish-yellow transverse vermiculation on front and top of head. Dorsal fin with reddish yellow spot, dorsal fin margin also reddish yellow.

### 3.6 Remarks

*Pristipomoides multidentis* can be identified by the two golden bands bordered with dark blue on the snout and cheek. Although its lateral line scale count overlaps with that of *P. typus*, the brownish-yellow transverse vermiculations on the front and top of the head, along with the distinctive golden bands on the cheek, effectively distinguish *P. multidentis* from *P. typus*.

The morphometric characteristics of *Pristipomoides auricilla* and *Pristipomoides multidentis* are presented in Table 1. Tables 2 and 3 provide a comparison of the meristic counts of *P. auricilla* and *P. multidentis*, respectively, with previously

reported data. The morphometric and meristic comparisons of *P. auricilla* and *P. multidentis* from the present study, conducted in the southeastern Arabian Sea reveal both similarity and noteworthy regional variations when compared to earlier studies. Most meristic characters, such as dorsal fin (X, 11) and anal fin (III, 8) counts, were consistent with global and regional descriptions, affirming species-level identification. However, certain variations were observed, *P. auricilla* exhibited slightly fewer pectoral-fin rays (14–15) compared to the 16 reported by Kami [8] and Allen [2], while *P. multidentis* had a slightly more lateral-line scale count (51), differing from Senta and Tan [15] and Baranes et al. [3] but aligning with Allen's broader range (48–52) [2]. Notably, the gill raker count in *P. auricilla* (28) and *P. multidentis* (19) matched the lower ranges of previous reports, suggesting possible localized phenotypic adaptation. While *P. auricilla* and *P. multidentis* are listed in checklists of fishes from the Indian coast [11–14], detailed descriptions of these species are lacking. This study represents the first documented record of *P. auricilla* from the Indian coast, providing a comprehensive description of the specimen, including its morphometric and meristic characteristics. Additionally, *P. multidentis* has been described in detail only once before, in a report by Dipanajan et al. [4], based on specimens collected from the Bay of Bengal. This study enhances the understanding of *P. auricilla* and *P. multidentis* by

**Table 1** Morphometric characteristics of *Pristipomoides auricilla* and *Pristipomoides multidentis* collected from the Southwest coast of India

Characters	<i>Pristipomoides auricilla</i> (n = 5)	<i>Pristipomoides multidentis</i> (n = 2)
Standard Length (mm)	293–345	420–415
In % of SL		
Head length	30.73–39	35.16–35.33
Snout length	9.0–13	11.83–11.90
Eye diameter	9–10.54	9.44–9.56
Upper jaw length	13.03–18.05	14.19–14.96
Lower jaw length	12.44–16.90	13.22–13.47
Interorbital width	6.18–10.31	8.06–8.93
Suborbital depth	4.23–8.75	6.33–7.35
Dorsal fin length	10.44–13.5	15.16–16.59
Dorsal fin base length	43.54–49	49.67–52.83
Pelvic fin length	22.78–46.60	27.74–28.88
Pelvic fin base length	4.36–6.35	4.19–5.393
Pectoral fin length	29.82–31	31.93–33.38
Pectoral fin base length	5.10–5.9	5.16–6.13
Anal fin length	7.95–11.8	9.27–9.49
Anal fin base length	7.95–16.8	18.38–18.71
Caudal peduncle length	14.60–17.02	17.09–18.79
Caudal peduncle depth	9.00–12.20	9.67–12.09
Pre dorsal length	38.12–42.55	39.35–40.36
Pre pelvic length	38.39–42.02	35.80–38.03
Pre pectoral length	32.44–38.4	31.93–32.37
Pre anal length	70.63–79.71	66.12–71.36
1st Dorsal spine	6.802–8.89	6.45–7.18
2nd Dorsal spine	9.42–11.8	11–11.17
3rd Dorsal spine	10.89–12.6	15.7–16.04
4th Dorsal spine	11.00–11.71	16.40–16.66
5th Dorsal spine	9.75–13	16.17–16.30
6th Dorsal spine	9.97–11.9	15.18–16.03
1st Soft dorsal ray	10.65–12.7	11.7–12.29
1st Anal fin spine	3.1–5.6	4.38–5.2
2nd Anal fin spine	5.97–7.7	7.78–7.91
3rd Anal fin spine	6.74–9.00	8.85–9.3
1st Soft anal fin ray	10.41–13.19	10.39–11.20

**Table 2** Comparison of meristic counts of *Pristipomoides auricilla* with earlier reports

Character	Present study	Kami [8]	Allen [2]	Leis and Lee [9]
Dorsal-fin rays	X,11	X,11	X,11	X,11
Anal-fin rays	III,8	III,8	III,8	III,8
Pectoral-fin rays	14–15	16	16	15–16
Pelvic-fin rays	I,5	–	–	–
Lateral-line scales	73–74	70–74	70–74	67–71
Scale rows above lateral line	6½	–	–	–
Scale rows below lateral line	17½	–	–	–
Scale rows on cheek	6	–	–	–
Gill rakers	28 (10+18)	27–32 (8–10+18–20)	17–21 (lower limb)	28–30 (9–11+18–19)

**Table 3** Comparison of meristic counts of *Pristipomoides multidens* with earlier reports

Character	Present study	Senta and Tan [15]	Allen [2]	Baranes et al. [3]	Dipana-jan et al. [4]
Dorsal-fin rays	X,11	X,11	X,11	X,10	X,11
Anal-fin rays	III,8	III,8	III,8	III,8	III,8
Pectoral-fin rays	15	16	15–16	15	16
Pelvic-fin rays	I,5	–	I,5	–	–
Lateral-line scales	51	48–50	48–52	48	–
Scale rows above lateral line	6	6–7	–	5½	7
Scale rows below lateral line	15	11–15	–	13½	15
Scale rows on cheek	6	7	–	–	7
Gill rakers	19 (8+11)	17–23 (6–8+11–15)	11–15 (lower limb)	16	–

providing the first detailed description of *P. auricilla* along the Indian coast and enriching the existing knowledge of *P. multidens*, contributing valuable insights into the taxonomy and biogeography of these species in Indian waters.

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**Author contributions** A.V. and L.W. wrote the manuscript; L.W. conceptualized and supervised the study; A.V. and S.P.M. conducted the sampling; S.J.K. supervised the work. All authors reviewed the manuscript.

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**Data availability** All data generated or analysed during this study are included in this published article.

## Declarations

**Ethics approval** Not applicable.

**Consent to participate** Not applicable.

**Consent to publish** Not applicable.

**Competing interests** The authors declare no competing interests.

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