

## First record of the dwarf monocle bream, *Parascolopsis baranesi* (Family: Nemipteridae) from Indian waters

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During a routine deep sea trawl operation for shrimps by private trawlers off Neendakara, Kerala, four fishes belong to family Nemipteridae measuring 91.56 - 126.03 mm (TL) with weight 30 - 40 g respectively was obtained. This fish has not been reported previously from Indian waters. The descriptions and morphometrics of the fish are presented in the present study.

[**Keywords:** *Parascolopsis baranesi*, First record, Indian waters.]

### Introduction

Family Nemipteridae consists of five genera *Nemipterus* Swainson, *Parascolopsis* Boulenger, *Pentapodus* Quoy and Gaimard, *Scaevius* Whitley, *Scolopsis* Cuvier with 62 species, widely distributed in tropical and sub tropical waters of Indian and Western Pacific oceans. Dwarf monocle bream belongs to genus *Parascolopsis* and are bottom living fishes, generally seen in the outer shelf and continental slope waters with soft bottom at depths upto 500 m. They are distributed throughout the tropical Indo-West Pacific, ranging from Western Indian Ocean (including Red Sea and Persian Gulf) to North East Australia and as far as South Japan and southwards to Delagoa Bay on the coast of East Africa<sup>1</sup>.

The external morphology of all nemipterid species is similar, so correct identification is often difficult, particularly when dealing with preserved specimens. Species of *Parascolopsis* have been previously assigned to the genus *Scolopsis*, but later Boulenger<sup>2</sup> proposed the genus name *Parascolopsis* for his new species *Parascolopsis townsendi*, based on specimens collected in 198 - 225 fathoms (360 - 409 m) in the Gulf of Oman. The genus was separated from *Scolopsis* Cuvier by its lack of a sub orbital spine<sup>1</sup>. Due to their small size, no major fishery exists for species of *Parascolopsis* though it is commonly seen in trawl landings. This makes the species rare in museum collections. However, due to its highly colourful body, this species has ornamental value and is becoming popular with aquarium hobbyists.

### Materials and Methods

The specimens for the present study were collected on 09 November 2009 and 30 March 2011 from trawlers, operating off Kerala (Neendakara) (Fig. 1). The description is based on the four specimens collected, measuring 91.56 - 126.03 mm (TL) with weight 30 - 40 g respectively. Present specimens are from a new locality and the, description, comments and figure are presented in the article. Morphometric measurements were made with Mitutayo digital caliper to the nearest mm (0.01). Length measurements are on standard length (SL); head length is from the tip of the snout to the most posterior point of the opercular membrane; snout length is from the tip of the snout; interorbital width is the least bony width; dorsal and anal fin base length is the greatest overall basal length; length of the dorsal



Fig. 1—Locality of collection: Neendakara Fishing Harbour, Kerala, India.

and anal spines is measured from the base of the spine to its tip; length of the longest dorsal and anal ray is measured from the base of the longest ray to its tip; pectoral and pelvic fin length is measured from the base of the anterior ray, to the farthest tip of the fin, including filaments if any. Fin ray counts include all visible rays both branched and unbranched; lateral line scales are the number of pored scales in the lateral line; gill rakers are counted on the first gill arch. All measurements taken are compared with the earlier description<sup>1</sup> and measurements given (Table 1) are from the four fresh specimens collected. The specimens have been preserved in 2% formalin and deposited in National Biodiversity Referral Museum at CMFRI.

Table 1: Comparison of present specimen's measurement with Holotype of Russell & Golani, (1993)

Parameters	Russel & Golani, (1993)	Present specimen range
<b>Morphometrics</b>		
Body depth in SL	2.5-3	2.7-3.0 (2.8)
Head length in SL	2.8	2.4-2.6 (2.5)
Head depth in SL	0.9	0.9-1.1 (1.0)
Snout length in HL	4.6	4.8-5.3 (5.1)
Eye diameter in HL	2.5	3.1-3.4 (3.1)
Eye diameter in snout length	0.5	0.5-0.6 (0.5)
Inter orbital in ED	1.6	1.0-1.2 (1.06)
Dorsal fin length in SL	1.9	2.0-2.1 (2.06)
1 <sup>st</sup> dorsal spine in 5 <sup>th</sup> dorsal spine	2.2	1.8-2.2 (2.0)
3 <sup>rd</sup> dorsal ray in 5 <sup>th</sup> dorsal spine	0.8	1
Anal fin length in SL	5.5	5.5-8.0 (6.6)
1 <sup>st</sup> anal spine in 2 <sup>nd</sup> anal spine	1.5	1.4-1.5 (1.45)
2 <sup>nd</sup> anal spine in 3 <sup>rd</sup> anal spine	1	1
Pectoral fin length in HL	1.5	1.5-2.0 (1.7)
Pelvic fin length in HL	1.8	1.7-1.9 (1.8)
Pectoral fin in Pelvic fin	0.8	0.6-0.7 (0.6)
<b>Meristic characters</b>		
Dorsal I (spine)	X	X
Dorsal (ray)	9	9
Dorsal II (ray)	0	0
Pectoral	14-15	13-15
Pelvic (spine)	*	I
Pelvic (rays)	*	5
Anal spines	III	III
Anal rays	7	7
Caudal	*	17
Lateral line scales	35-38	38-40
Gill rakers	10-13	10-13

## Results and Discussion

*Parascalopsis baranesi* Russell & Golani, 1993. (*Israel J. Zoo.*; 39(4):337-347, Fig. 1 (Off Eilat, Israel, Gulf of Aqaba, Red Sea, depth 350 meters; )<sup>3,4</sup>

**Diagnosis:** *Parascalopsis baranesi* is easily identified by a prominent reddish orange coloured blotch between the 7<sup>th</sup> and 10<sup>th</sup> dorsal fin spines. (Fig. II) The colour of the specimen fades in formalin preservation

**Description:** D X, 9; A III, 7; P 13; V I, 5; C17; Gr 10-13; LI scales 38-40

**Body proportions as percent of standard length:** Head length 38.1-40.5 (39.4); head width 14.6-33.5 (21); head depth 27.2-37.2 (33.4); body depth I 32.8-37.1 (35.5); head length and head depth are about equal to body depth; body depth II 16.6-25.5 (19.6); snout length 12.3-15.0 (13.9); eye diameter 12.1-12.8 (12.5); inter orbital 9.8-11.7 (10.9); pre orbital length 8.5-9.8 (9.3); post orbital length 18.7-21.1 (19.6); lower jaw length 9.9-11.1 (10.7); upper jaw length 11.5-13.8 (12.6); chin depth 3.3-4.6 (3.8); pre dorsal I length 36.6-41.5 (39.6); pre-pelvic length 37.1-41.4 (39.5); pre-pectoral length 39.0-40.4 (39.6); pre anal length 68.4-70.2 (69.3). Fin length-pectoral 15.4-26.4 (19.2); pelvic 20.8-22.3 (21.7); dorsal 16.1-56.8 (30.0); fifth dorsal spine is usually longest; anal 12.3-27.7 (17.6); caudal 19.0-24.4 (21.3). Fin base- pectoral 5.9-6.3 (6.0); pelvic 3.0-4.7 (3.6); dorsal I 46.3-49.3 (48.1); anal 12.3-18.1 (15.3); caudal 19.0-24.4 (21.3); caudal fin base is smaller than eye diameter.

**Body proportions as percent of head length:** Head width 37.5-38.2 (37.8); head depth 67.3-97.7 (85.0); snout length 18.4-20.4 (19.4); eye diameter 31.6-31.9 (31.7); inter orbital 24.6-29.4 (27.6); pre orbital length



Fig. 2—*Parascalopsis baranesi*

20.8-25.6 (23.6); post orbital length 46.2-53.3 (49.7); lower jaw length 24.8-29.1 (27.1); upper jaw length 28.3-36.2 (32.1); chin depth 8.71-11.27 (9.58).

Mouth small, slightly pointed, terminal; maxillary reaching to below anterior margin of pupil; teeth in jaws villiform, in 3 rows anteriorly in upper jaw, 4 rows anteriorly in lower jaw, bands of teeth in both jaws tapering posteriorly, upper jaw with about 5 pairs of slightly enlarged, recurved teeth anteriorly. Scales on top of the head extending forward about level of anterior nostrils; snout naked; suborbital naked with denticulations on posterior edge and anteroventral margin; posterior limb of pre-maxilla naked. Eyes prominent, greater than snout length; pre-operculum with 9 transverse scale rows; posterior margin finely denticulate; spines absent on operculum; pre-operculum slightly serrated. Dorsal profile of the head from nape deeply sloped; single dorsal fin; the length of the dorsal fin base is greater than body depth. Pectoral fin moderately elongated, reaches the anal fin origin; pelvic fin short, not reaching vent; pelvic fin origin is on a vertical line from the dorsal fin origin; caudal fin slightly forked, fin base is almost equal to eye diameter. Lateral line scales counts 38-40; body covered with ctenoid scales. Gill rakers 10-13, 3-5 in upper limb and 6-8 in lower limb.

*Colour in life*: Body pinkish, silvery below. Head brightly coloured, eyes pinkish. Two bright yellowish bands seen under the lateral line, first band starts behind the upper corner of the operculum and the second at the pectoral base, and ends at the base of caudal peduncle; traces of pinkish vertical bars seen on body. Dorsal fin yellowish, rays transparent; a prominent red blotch between 7<sup>th</sup> and 10<sup>th</sup> dorsal spines; pectoral, pelvic and anal fins pinkish to white; caudal fin yellow with reddish base and margin.

*Colour in formalin preserved*: Uniform brownish white with silvery tinge. Trace of bars on the body.

*Distribution*: This species has been recorded earlier from Gulf of Aqaba, Red Sea in the Western Indian Ocean. The present specimen has been recorded off Kerala (Neendakara), India (Arabian Sea).

The nemipterid genus *Parascalopsis* is represented by 12 species in tropical and sub-tropical waters of Indo-Pacific Oceans - *Parascalopsis aspinosa* (Rao & Rao, 1981), *Parascalopsis baranesi* Russell & Golani, 1993, *Parascalopsis boesemani* (Rao & Rao, 1981), *Parascalopsis capitinis* Russell, 1996, *Parascalopsis eriomma* (Jordan & Richardson, 1909), *Parascalopsis inermis* (Temminck & Schlegel, 1843), *Parascalopsis melanophrys* Russell & Chin, 1996, *Parascalopsis*

*qantasi* Russell & Gloerfelt-Tarp, 1984, *Parascalopsis rufomaculatus* Russell, 1986, *Parascalopsis tanyactis* Russell, 1986, *Parascalopsis tosenis* (Kamohara, 1938) and *Parascalopsis townsendi* Boulenger, 1901. *Parascalopsis rufomaculatus* Russell and *P. boesemani* Rao & Rao are the two species from northwestern Australia and Indian Ocean which has close resemblance with *Parascalopsis baranesi* in having a prominent reddish orange blotch between eighth and tenth dorsal spines. *P. baranesi* differs from *P. rufomaculatus* in having the scales on top of the head reaching forward to about the level of the anterior nostrils; and differs from *P. boesemani* in having the body depth about equal to head length and having relatively shorter pectoral space and pelvic fins<sup>1</sup>. *P. aspinosa*, which is a common species in India, also resembles *P. baranesi* but differs in having the reddish blotch at the base of the dorsal fin between eighth and tenth dorsal spines and having relatively long pectoral and pelvic fins reaching to or beyond level of anus. Comparison with the measurements of the holotype<sup>1</sup> shows that the results of morphometric and meristic counts match well; this shows that the present report is a confirmed record of *P. baranesi* (Table 1). Almost all the measurements are equal with slight changes in the snout length, eye diameter and inter orbital; it may due to the differences in the ground.

The record of this species off South Kerala is a new addition to the list of marine ornamentals from India.

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