Nair et al. Marine Biodiversity Records (2016) 9:74
DOI 10.1186/s41200-016-0078-6

Marine Biodiversity Records

MARINE RECORD Open Access

First report of dwarf monocle bream *Parascolopsis capitinis* (Teleostei: Nemipteridae) from South-west coast of India

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Abstract

The dwarf monocle breams of Genus *Parascolopsis* are bottom living small fishes generally seen in the outer shelf and continental slope waters and are represented worldwide by 12 species. Morphometric measurements, meristic counts and identification of the specimens follows standard methods. *Parascolopsis capitinis* Russell (J South Asian Nat Hist. 2:63–6, 1996), is reported for the first time from Indian waters based on 22 specimens (192–232 mm total length) collected from Cochin fisheries harbour in the South-west coast of India on 5 November 2012. This is the first report of the fish from Indian waters and adds to the five species already reported from this genus from Indian waters. Full description of the species is provided.

Keywords: Nemipteridae, *Parascolopsis* new record, Indian waters, Water temperature

Introduction

Dwarf monocle breams (Genus *Parascolopsis*) are bottom living small fishes, generally seen in the outer shelf and continental slope waters with soft bottom at depths up to 500. Genus *Parascolopsis* have been previously assigned to the genus *Scolopsis*, but later Boulenger (1901) proposed the genus name *Parascolopsis* for his new species *Parascolopsis townsendi*, based on specimens collected in 360–409 m in the Gulf of Oman. *Parascolopsis capitinis* is reported to be distributed throughout the tropical Indo-West Pacific, ranging from Western Indian Ocean (including Red Sea and Persian Gulf) to North East Australia as far as South Japan and southwards to Delagoa Bay on the coast of East Africa (Russell & Golani 1993). *P. capitinis* is distinguished by its relatively large head, moderately long pelvic fins, which reach almost up to the vent; and by a black spot on the upper base of the pectoral fin (Russell et al. 1990. Twelve species of *Parascolopsis* have been recorded worldwide- *P. aspinosa* (Rao & Rao), from the Western Indian Ocean, *P. baranesi* Russell & Golani, from northern Gulf of Aqaba and Northern Arabian Sea (Nair et al. 2012), *P. boesemani* (Rao & Rao), from India; *P. capitinis* Russell, from St John's Fish Market, Colombo, Sri Lanka, *P. eriomma* (Jordan & Richardson) and *P. inermis* Schlegel in Temminck & Schlegel, both widespread in the Indo-West Pacific; *P. melanophrys* Russel & Chin, from two specimens collected from Kupang, West Timor, Indonesia and Taiwan, on the east coast of Sabah, Malaysia; *P. qantasi* Russell & Gloerfelt-Tarp, from Indonesia; *P. rufomaculatus* Russell, from Northwestern Australia; *P. tanyactis* Russell and *P. tosensis* (Kamohara) both widespread in the Western Pacific; and *P. townsendi* Boulenger, from the Western Indian Ocean (Russell & Golani, 1993; Russell & Chin, 1996).

Material and methods

Twenty two specimens of *P. capitinis* were collected from Cochin Fisheries Harbour (9°29′ 57′′N 74°48′ 05′′E and 9°51′ 05′′N 75°26′ 23′′E) on the South-west coast of India on 5 November 2012. The fishes were identified on the field, photographed (Fig. 1) and

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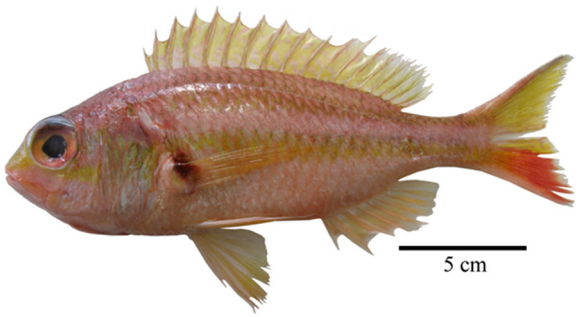

Fig. 1 *Parascolopsis capitinis* Russell 1996 of 226 mm total length collected from Cochin Fisheries Harbour, Kerala, India

deposited at the National Marine Biodiversity Referral Museum at the Central Marine Fisheries Research Institute, Kochi (GB.31.9.82.4). The fishes were caught by gill netters operating off Cochin at depth range between 50–80 m. Morphometric measurements, meristic counts (Table 1) and identification of the specimens follows Russell & Chin (1996).

Table 1 Comparision of present specimen, *Parascolopsis capitinis* Russell 1996 with their holotype and paratypes

Characters	Holotype and Paratypes (Russell 1996)	Present Specimens Kochi[a]
Dorsal fin	X, 9	X, 9
Anal fin	III, 7	III, 7
Pectoral fin	17 (16–17)	17 (15–18)
Lateral line scales	35 (35–36)	35 (35–37)
Gill rakers	12 (11–12)	12 (12–13)
Body depth in SL	2.9 (2.8–3.1)	2.9 (2.7–3.0)
Head length in SL	2.8 (2.6–2.8)	2.8 (2.6–3.0)
Head length in BD	1 (0.9–1.0)	0.9 (0.9–1.0)
Snout in head	3.6 (4.1–4.7)	5.2 (3.9–6.2)
Eye diameter in head	3.1 (2.7–3.1)	3.2 (3.0–3.5)
Eye diameter in snout	0.9 (0.6–0.7)	0.6 (0.5–0.8)
Inter orbital width in ED	1.5 (1.4–1.8)	1.3 (1.1–1.6)
Dorsal fin base length in SL	1.9 (1.9–2.0)	1.8 (1.8–1.9)
1st dorsal spine in longest dorsal spine	1.9 (1.9–2.0)	2.1 (1.8–2.8)
Longest dorsal spine in longest dorsal ray	1.1 (1.0–1.1)	1.1 (0.9–1.2)
Anal fin base length in SL	6.1 (5.9–6.4)	5.8 (5.3–6.1)
1st anal spine in 2nd anal spine	1.7 (1.6–1.8)	1.8 (1.6–2.2)
2nd anal spine in 3rd anal spine	1 (0.9–1.0)	1 (0.9–1.1)
Pectoral fin in head	1.3 (1.3–1.4)	1.3 (1.2–1.4)
Pelvic fin in head	1.5 (1.5–1.6)	1.5 (1.4–1.6)

[a]The measurements given first (outside brackets) are total average of measurements

Results

ORDER PERCIFORMES
FAMILY NEMIPETRIDAE
GENUS *PARASCOLOPSIS*
SPECIES *CAPITINIS*
Parascolopsis capitinis
Fig. 1

Material described

Twenty two specimens of *P. capitinis* (GB.31.9.82.4) in the length range 150–181 SL and weighing 96–177 g were collected from Cochin fisheries harbour on the South-west coast of India on 5 November 2012 (Fig. 2).

Description

Dorsal fin rays X, 9; anal fin rays III, 7; pectoral fin rays 17 (15–18); pelvic fin rays V, 5; lateral-line scales 35 (35–37); gill rakers 12 (12–13). Body moderately deep, depth 2.9 (2.7–3.0) times in SL; body depth equal to or slightly shorter than head length; dorsal head profile slightly convex in front of eye; head length 2.8 (2.6–3.0) times in SL; eyes moderate, placed at the upper edge of dorsal profile, diameter 3.2 (3.0–3.5) times in HL; snout moderately short, 5.2 (3.9–6.2) times in head; mouth moderate, terminal, maxillary reaches the level of anterior margin of pupil; teeth on jaws villiform. Single dorsal fin; spinous dorsal fin notched, 4th or 5th spine longest 5.5 (4.8–7.3) times in HL; 2nd or 3rd anal spine longest 2.9 (2.5–3.4) times in HL; long elongated pectoral fin, reaching upto or beyond the level of anal fin orgin; pelvic fins slightly long, filamentous tip reaches vent; caudal peduncle length 2.3 (2.0–2.7) times in HL. Caudal fin emarginated to slightly forked.

Body rosy pink with traces of indistinct olive band on upper body along lateral line, paling ventrally. An indistinct olive to yellow horizontal stripe from posterior edge of operculum to base of caudal fin. A yellowish band on snout in front of eye. Upper base of pectoral fin with brownish to black spot. Operculum and pre-operculum with traces of yellow band. Caudal fin yellow on the upper half and mild red lower lobe. Dorsal, anal and pelvic fin pinkish with diffused yellow irregular stripes. Pectoral fin translucent yellow.

The maximum reported size of *P. capitinis* is 18.2 cm SL (Russell, 1996). The size range of the specimens reported here are 170 mm (150–181) SL weighting 154 g (96–177). Sex of the fish was determined. Of the total 22 specimens examined, nine were male and 13 female, rest were immature. The gut of most of the fishes were empty with only traces of digested matter; only some

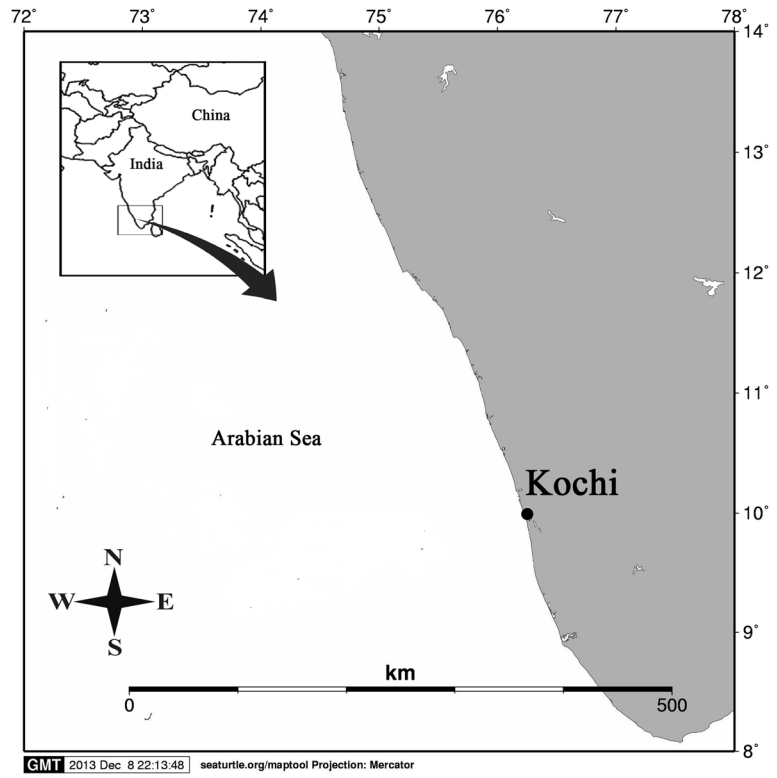

Fig. 2 Southwest coast of India

fish's guts had half-digested parts of shrimps, *Acetes*, crabs and fishes.

Remarks

Parascolopsis eriomma is the only similar species in Indian waters but it differs from *P. captinis* by having 17–19 gill rakers on first arch (vs. 11–12); relatively smaller head (head length 3.0–3.3 in SL, vs 2.6–2.8 in SL); pectoral fins just short to the level of anus (vs. reaching to or beyond level of anal fin origin). Browinish black spot on the upper base of pectoral fin absent in *P. eriomma* (present in *P. captinis*) (Russell 1996). Caudal fin yellowish (upper half yellow and lower half rosy red). *P. quantasi* the other species which has dark spot on pectoral base is not reported in Indian waters (Russell & Golani 1993).

Conclusion

As *P. captinis* is now regularly seen in fishery along with other nemipterid fishes, its presence cannot be attributed to ballast water discharges, but more likely due to effect of climate change, the rise in water temperature, which may have caused the species to move north from Sri Lankan waters to India. The authors agree with the view of Claireaux et al. (1995), that fish often demonstrate avoidance of unfavourable temperatures. The ability to detect and respond to temperature changes can lead to alterations in distribution as fish seek better environmental conditions. The climate changes which led to a rise in the sea surface temperature and therefore coral bleaching during 2004–2005 could have caused the fish to extend its range from native habitat to the west coast of India. The present record is also a pointer to the need for a further taxonomic inventory of the rich reef diversity of Indian waters which may result in recording many more species hitherto not known from Indian waters. Proper identification of organisms is necessary to monitor biodiversity at any level (Vecchione and Collette, 1996). For this, accurate morpho-meristic descriptions are a prerequisite. As more and more range extensions of species are recorded, descriptions of those species have also to be put into place, hence this work acquires its importance.

Abbreviations

Fig., figure; HL, head length; SL, standard length

Acknowledgements

We are very grateful to the Director, Central Marine Fisheries Research Institute, Kochi and the Heads of Division of Demersal Fisheries and Fishery Resource Assessment for the facilities provided and constant encouragement and support. Many thanks are due to Barry C. Russell for the confirmation of the identification of the fish and their valuable comments. The authors also thank the referees who have greatly contributed to the quality of this manuscript.

Funding
The financial support from the Ministry of Environment and Forests is gratefully acknowledged.

Availability of data and materials
Material was collected from Cochin Fisheries Harbour from landed catch.

Authors' contributions
RJN and DK did collection, RJN and SK conceived and SK participated in the design of the study. All authors helped to draft the manuscript, read and approved the final manuscript.

Competing interests
The authors declare that they have no competing interests.

Consent for publication
I have obtained the necessary consent from my co-authors for publication.

Ethics approval and consent to participate
No animals were killed or disturbed by me during the study. Study was based on dead animals.

Received: 5 April 2016 Accepted: 28 July 2016
Published online: 05 August 2016

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