NEW RECORDS OF POLYCLAD FLATWORMS (PLATYHELMINTHES: TURBELLARIA) FROM CORAL REEFS OF LAKSHADWEEP ISLAND, INDIA

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Ten new records of polyclad flatworms, which include five species of *Pseudoceros* Lang, 1884, four species of *Pseudobiceros* Faubel, 1984 and one species of genus *Maritigrella*, recorded from Lakshadweep Island, India, are described. One species of genus *Thysanozoon* Grube, 1840 is also recorded.

**Keywords**: Polyclad, *Pseudoceros*, *Pseudobiceros*, *Maritigrella*, *Thysanozoon*, Lakshadweep, India

INTRODUCTION

Polyclads are prominent among the fauna of coral reefs from tropical and sub-tropical waters (Bolaños et al. 2007). Other than coral reefs, polyclads often inhabit rocky intertidal crevices, in association with other invertebrates (Quiroga et al. 2004). Although conspicuous, data available on taxonomy and geographical distribution of polyclads is scanty, and mostly concentrated to a particular region.


In India, studies on polyclads have remained neglected; little is known about their diversity on the east and west coasts. Laidlaw (1902) studied six species of *Pseudoceros* and one species of *Thysanozoon* from the Maldives and Laccadive archipelagos. This paper describes ten species of polyclads of Family Pseudocerotidae Lang 1884 and one species of Euryleptidae Lang 1884, from Lakshadweep Island, India. All the species are new to the Indian coast, except *Thysanozoon* of Family Pseudocerotidae (Laidlaw 1902).

STUDY AREA

Field collections were conducted on Kavratti island, Lakshadweep, west coast of India, from December 2008 to March 2009, on the eastern reef and shallow lagoon west of the island. The habitat on the eastern reef is dominantly coral boulders and loose rocks, while the lagoon is dominated by a coral reef. Direct search method was used; specimens were hand collected, during low tides in the intertidal region by overturning rocks, besides snorkeling in shallow waters. Geographical details were taken at collection sites and a position has been mapped with the Google Earth images. Live specimens were photographed *in situ* to record the true colours. Description of the colour patterns is based on live specimens. Identification is purely on the basis of external morphology and colour patterns with the aid of above mentioned literature and online databases (Discover Life; Author-Wolfgang Seifurth (1997); Newman and Cannon (2003)).

Descriptions

**Family: Pseudocerotidae**

*Pseudoceros goslineri* Newman & Cannon, 1994

**Description**: Body is elongated and oval with a few marginal ruffles. Pseudotentacles are simple tubular folds of anterior margin. Dorsal surface is creamish with orange, pink and brick-red dots, spread unevenly. Reddish spots clustered together, appear as irregular blotches near the anterior extremity and just behind the cerebral eyespot. Dorsal margin has pinkish-purple irregular spots, which are closer across the pseudotentacles.

**Size**: 20 mm.

**Extralimital Distribution**: Indo-Pacific.

*Pseudoceros indicus* Newman & Schupp, 2002

**Description**: Body is elongated with a few marginal ruffles. Pseudotentacles are simple and erected. Dorsal surface is opaque, white to creamish with ink blue or purple well-defined spots along the margin. These spots are irregular in shape, well spaced-out and continue over the pseudotentacles. The mid-dorsal area has a pink tinge in some specimens. The species shows a wide range of colour variation.
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**Pseudoceros cf susanae** Newman & Anderson, 1997

*Description*: Body is elongated with a few marginal ruffling. Pseudotentacles are simple, pointed and erect; they are blue with a dark purple rim. Dorsal surface is bright orange with a white stripe at the mid-dorsal region and margin shows a white band at the centre followed with a dark purple band.

*Size*: 60 mm.

*Extralimital Distribution*: Indian Ocean.

**Pseudobiceros gratus** Kato, 1937

*Description*: Body is elongated with deep marginal ruffles. Pseudotentacles are erect, pointed and ear-like. Dorsal surface is white with parallel black stripes. Mid-lateral stripes meet at both extremities. Lateral stripes do not extend beyond cerebral eyespot, but meet posteriorly. Body has a thin black margin, which also runs across the pseudotentacles.

*Size*: 40 mm.

*Extralimital Distribution*: Indo-Pacific.

**Pseudobiceros murinus** Newman & Cannon, 1997

*Description*: Body is transparent, grey-green with a few marginal ruffles. Pseudotentacles are long, erect and pointed. Pseudotentacles are purple-pink with a white spot at the tip. Dorsal surface with irregular black and white dots in evenly spread scattered clusters. Median portion is raised and reddish whereas margin shows an orange band with a narrow white rim.

*Size*: 60 mm.

*Extralimital Distribution*: Indo-Pacific.

**Pseudobiceros stellae** Newman & Cannon, 1994

*Description*: Body is elongated with deep marginal ruffles. Pseudotentacles are square and inflated. Dorsal background is black with white dots throughout. Larger dots appear like clusters and are distributed regularly.

*Size*: 30 mm.

*Extralimital Distribution*: Indo-Pacific.

**Pseudobiceros uniarborensis** Newman & Cannon, 1994

*Description*: Dorsal surface is dark brown to black with margin having three distinct bands – inner bright orange, middle transparent grey and outer opaque white. Pseudotentacles are pointed and black with white tips and without marginal bands.

*Size*: 25 mm.

*Extralimital Distribution*: Indo-Pacific.

**Thysanozoon sp.**

*Description*: Body is translucent and elongated, with a few marginal ruffling. Pseudotentacles are small. Dorsal surface...
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Fig. 1 (a-k): Polyclad flatworms recorded from coral reefs of Kavaratti Island, Lakshadweep Islands,
a. Pseudoceros goslineri; b. Pseudoceros indicus; c. Pseudoceros paralaticlavus; d. Pseudoceros prudhoei; e. Pseudoceros cf susanae; f. Pseudobiceros gratus; g. Pseudobiceros murinus; h. Pseudobiceros stellae; i. Pseudobiceros uniarborensis; j. Thysanozoon sp.; k. Maritigrella fuscopunctata

shows pink-white mottling and numerous red-brown papillae.

Size: 20 mm.

Extralimital Distribution: Indo-Pacific.

Family: Euryleptidae
Maritigrella fuscopunctata Newman & Cannon, 2000
Description: Body is elongated with deep marginal ruffles. Marginal tentacles are pointed and erect. Dorsal background is creamish white, with black spots in transverse rows. Black spots are surrounded by a faint violet band. The mid-dorsal portion is raised with orange spots, which are arranged in a honeycomb pattern. Margin shows orange band and small black spots extending across the tentacles.

Size: 40 mm.

Extralimital Distribution: Indo-Pacific.
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CONCLUSION

Among the eleven species of polyclads recorded in Kavaratti Island of Lakshadweep, *Pseudoceros indicus*, *P. paralaticlavus*, *P. prudhoei* and *Pseudobiceros murinus* were common. *Pseudobiceros gratus* and *Maritigrella fuscopunctata* were rare. The records of these polyclad species in the Lakshadweep Islands, which have hitherto not been reported from the Indian coasts, clearly reveal the major gaps in the documentation of polyclad fauna of India. More surveys and studies need to be taken up to document the polyclad fauna of India. There will also be a need for DNA sequencing to reveal the actual diversity of this confusing group.

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