

## First record and description of marine flatworm *Pseudoceros bolool* (Newman & cannon, 1994) from Gujarat state

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### Abstract

*Pseudoceros bolool* (Newman & Cannon, 1994) belongs to Order Polycladida in the phylum Platyhelminthes. This species has been previously recorded from Andaman and Nicobar Island, India. The present report describes the first record and description of the species from the Shivrajpur coast situated along the Devbhoomi Dwarka district Saurashtra coast of Gujarat.

**Keywords:** marine, macrobenthic, flatworm, shivrajpur

### 1. Introduction

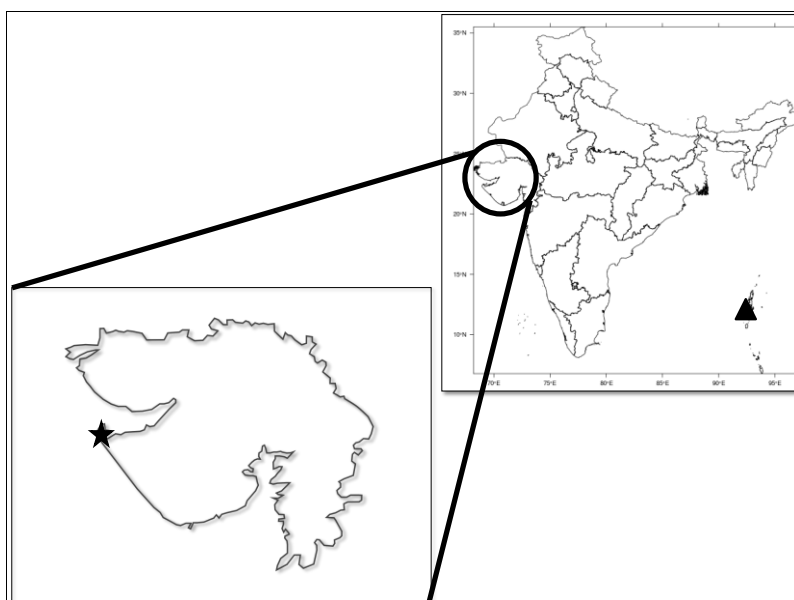
The genus *Pseudoceros* comes under the family Pseudocerotidae (Lang, 1884). Members of this family are the most brilliantly colored and characterized by presence of pseudo (false) tentacles. This genus is easily recognized by a ruffled pharynx and an anastomosed intestine (Hyman, 1954) [1]. In contrast with the easy recognition of this genus at species level, it is very challenging to distinguish them as they are very similarly constructed and the color pattern. The genus *Pseudoceros* (Lang, 1884) is represented by 87 species worldwide (Dixit *et al.* 2017) [2].

Total 15 species belonging to genus *Pseudoceros* have been reported from Andaman Nicobar Islands (Sreeraj *et al.*, 2015) [3] and 5 species from Lakshadweep Islands (Apte, 2011) [4]. Recently the description of two new species belongs to same

genus, *P. galatheens* and *P. nigropunctatus* was recorded by Dixit (2017) [2]. *Pseudoceros bolool* has already been documented from Andaman and Nicobar Islands from India. Herein, we are documenting the first record of this species from Shivrajpur coast of Gujarat.

### 2. Materials and Method

The specimen was observed on rocky shore of Shivrajpur coast (22°19'56.35"N and 68° 56'56.44"E) belongs to Devbhoomi Dwarka district of Gujarat. The entire study site was explored to encounter the maximum number of different intertidal species. The specimen *Pseudoceros bolool* was photographed in situ by Nikon underwater camera AW1 and geo location was recorded using Garmin eTrex 30x GPS device (Fig. 1).



**Fig 1:** The cartographical representation shows the record of *Pseudoceros bolool* from the Indian sub-continent: ▲ Andaman and Nicobar Islands (Sreeraj, 2015) [3]; ★ Present study (May, 2016).

### 3. Results and discussion

#### 3.1 Systematic nomenclature

Order : Polycladida (Lang, 1884)  
Suborder : Cotylea (Lang, 1884)  
Family : Pseudocerotidae (Lang, 1884)  
Genus : *Pseudoceros* (Lang, 1884)  
Species : *Pseudoceros bolool* (Newman & Cannon, 1994) <sup>[5]</sup>



**Fig 2:** Dorsal side of *Pseudoceros bolool*

#### 3.2 Distribution

The distribution of *P. bolool* has been found on Heron Island and One Tree Island in Australia, Madang in Papua New Guinea (Newman, 1994) <sup>[5]</sup>. It was also recorded in the Caribbean Islands, Indian Ocean (Hyman, 1954) <sup>[1]</sup>. In India, it has been reported from Andaman and Nicobar Islands (Sreeraj, 2015) <sup>[3]</sup> and in the present study from the Shivrajpur area of Gujarat coast (Fig. 2).

#### 3.3 Habitat

It is usually found on the reef crest under the boulders associated with tunicates and under the coral rubble of the reef slope.

#### 3.4 Description

Dorsally the animal is velvety black with no markings. Ventrally it is light grayish medially and darker marginally. Pseudotentacles are simple folds of the previous margin. Cerebral cluster is formed by about 60 eye spots in a clear area. The nervous system is comprised of the brain which is small, round and is not bilobed; the main nerve cords are thin

and dorso-ventrally flattened. The globuli cell masses are absent (Quiroga *et al.* 2015) <sup>[6]</sup>.

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#### 5. References

1. Hyman LH. The polyclad genus *Pseudoceros*, with special reference to the Indo-Pacific region. *Pacific Science*. 1954; 8:219-225.
2. Dixit S, Raghunathan C, Chandra K. Two new marine flatworms (Polycladida: Pseudocerotidae) from Andaman & Nicobar Islands, India. *Zootaxa*. 2017; 4221(1):111-122.
3. Sreeraj CR, Raghunathan C, Raghuraman R, Dixit S, Venkataraman K. Polyclads of Andaman and Nicobar Islands. *Zoological Survey of India*, 2015, 100.
4. Apte D, Pitale RD. New records of polyclad flatworms (Platyhelminthes: Turbellaria) from coral reefs of Lakshadweep Island, India. *Journal of the Bombay Natural History Society*. 2011; 108(2):109.
5. Newman LJ. *Pseudoceros* and *Pseudobiceros* (Platyhelminthes, Polycladida, Pseudocerotidae) from eastern Australia and Papua New Guinea. *Memoirs of the Queensland Museum*. 1994; 37(1):205-266.
6. Quiroga SY, Carolina Bonilla E, Marcela Bolaños D, Carbayo F, Litvaitis MK, Brown FD. Evolution of flatworm central nervous systems: insights from polyclads. *Genetics and molecular biology*. 2015; 38(3):233-248.