Report on new record of the black-margined nudibranch, *Doriprismaticata atromarginata* (Cuvier, 1804) from the inshore waters of Bay of Bengal along Karaikal coast

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Present investigation provides information on the availability of Black-margined nudibranch which were caught by trawl gears operated along the Karaikal coast of south India at a depth of around 150-200 m during 16 October 2012. Specimens were identified as *Doriprismaticata atromarginata*. This species has not been reported earlier and therefore considered as a new record to the inshore waters of Bay of Bengal along Karaikal coast.

**Keywords:** Black-margined nudibranch, *Doriprismaticata atromarginata*, Karaikal Coast

**Introduction**

Nudibranchs are lesser-known molluscan group and commonly called “sea slugs”. These aquatic animals are well known for their fascinating variety of colors and body forms. This species was previously known as *Glossodoris atromarginata*. Nudibranchs belonging to the subclass Opisthobranchia are among the least studied molluscs in India. The earlier works date back to as early as 1880s (Alder and Hancock¹,7). During the recent times, some of the opisthobranch fauna along the coast of India have been reported 2,3,4,5,8,9,11. In a similar study, Sethi¹⁰ reported the sea slug, *Kalinga ornata* similar to the description of Alder & Hancock⁰, from the inshore waters of Bay of Bengal along Chennai coast. The present study reports a sea slug that was collected from the inshore waters of Bay of Bengal along the Karaikal coast. Identification to the species level was carried out as per the earlier reports and this is for the first time from the east coast of India.

**Materials and Methods**

Black-margined nudibranch were caught among the bycatch in trawls operated along the Karaikal coast (Lat: 10°49' 11.01" N; Long: 79°43' 79.52"E) of south India at a depth of around 150-200 m during 16 October 2012. The collected specimens were preserved in 70% (v/v) ethanol and deposited in National Biodiversity Referral Museum at CMFRI, Kochi. Examination of the specimen was done by Bombay Natural History Society, BNHS, Mumbai, India. For photographic documentation and detailed study, digital Kodak 6.2 Megapixel camera was used.

**Results and Discussion**

**Description of the specimen**

All the sea slugs collected belonged to a single species and were identified as *Doriprismaticata atromarginata* (Cuvier, 1804).

Collected species is relatively small and elongate in size (Fig. 1). It is characterized by the hard lemon-yellow body with an undulating margin that is elegantly edged in black colour. It holds this portion of its body in a raised position. Black edging is also found on the feathery gills and feathery rhinophores (Fig. 1). Body measures about 40 mm in length and 4 g by weight. It typically has a black-lined edge...
running down the outside of a much folded mantle and black rhinophore clubs. Feathery gills and feathery rhinophores are black in colour. There are black rings where the rhinophores emerge from the body. There were 14-22 gills with darker tips arranged in an arc around the anus. Two ends form an inwardly coiled spiral and the posterior gills are shorter than those anteriorly. Feathery gills rotate to and fro constantly (Fig. 1), this is believed to help improve respiration and found to be different from most other nudibranchs. While most of the nudibranchs which have thin body skins, the body skin of this black-margined nudibranch is rather thick and probably doesn't allow much secondary respiration to take place across the body skin surface (Fig. 2). This species is distributed throughout the tropical Indo-Pacific, extending into New South Wales in Eastern Australia (including Lord Howe Island) and along the West Australian coast.

Members of the Family Chromodorididae absorb the toxic chemicals in their sponge food and incorporate these chemicals into the mantle glands on their backs which act to repel predators. Although sea slugs are not consumed as food in India, they are known to possess anti-cancer, anti-tumor and anti-viral compounds and expected to be very useful for the pharmacological industries. Dolastatin-10, ILX651, Cemadotin and Kahalalide F are marine natural anti-cancer compounds derived from sea slugs which are under various clinical trials. However in India the sea slugs are considered as a low value bycatch and hence discarded or used either for manure or fish feed production.

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References