

Occurrence of Mottled Sea Hare, *Aplysia fasciata* Poiret, 1789 from Pulicat Lake, Tamil Nadu, India

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Two specimens of *Aplysia fasciata* were collected from Pulicat Lake, Tamil Nadu, at a depth range of 2 to 4 m (13° 26' to 13° 43' N latitude and 80° 03' to 80° 81' E longitude) by using a shore seine net in traditional fishing crafts. A literature review on the distribution of this species revealed that this is the first report of *Aplysia fasciata* from Pulicat Lake, Tamil Nadu along Coromandal coast of India.

[**Keywords:** Mottled Sea Hare; *Aplysia fasciata*; Pulicat lake; Tamil Nadu; India.]

Introduction

A literature survey on the species *Aplysia brasiliensis* limits its distribution to the Western Atlantic from New Jersey to Brazil and in the Eastern Atlantic including the Mediterranean and the West African coast. Some authors have reported the species *Aplysia brasiliensis*, present in the Atlantic coast of the Americas, to be a synonym of *Aplysia fasciata* with different colour pattern. It is a benthic herbivore that grazes on the tidal and subtidal zones of sea weeds or sea grass of tropical waters in the Indo-Pacific Ocean region. There are more than 50 species of *Aplysia* distributed worldwide and reside in the tidal and sub tidal zones^{1, 3}. However, many researchers have reported the other related species belonging to opisthobranch fauna of India. Sethi et al., reported the sea slug, *Kalinga ornata* from the inshore waters of Bay of Bengal along Chennai coast⁶. Report on new record of the black-margined nudibranch, *Doriprismatica atromarginata* (Cuvier, 1804) from the inshore waters of Bay of Bengal along Karaikal Coast⁷ and Occurrences of Wedge Sea Hare, *Dolabella auricularia* (Lightfoot, 1786) from Kayalpatinam, Gulf of Mannar, Tamil Nadu, India have also been reported⁸. New occurrences of Side-gilled Slugs, *Pleurobranchus mamillatus*, Quoy & Gaimard, 1832 off Tuticorin Coast, Tamil Nadu, India⁵; First record of Ragged Sea Hare, *Bursatella leachii* Blainville, 1817 Opisthobranchia:

Euopisthobranchia: Aplysiidae) in Pulicat Lake, East Coast of India⁹; Occurrences and distribution of Geographic Sea Hare, *Syphonota geographica*, Adams & Reever, 1850 in Pulicat Lake, TN¹⁰; Occurrence of Nudibranch [*Dendrodoris atromaculata* (Alder and Hancock, 1864)] from the Pulicat Lake along Bay of Bengal, India¹¹. Kumar, et al., reported *Aplysia* species from Thondi, Gulf of Mannar, Bay of Bengal, Tamil Nadu⁴. Sneha et al, (2016) Report of *Aplysia argus* (Ruppell & Leuckart, 1830) (Mollusca: Opisthobranchia: Aplysiidae) from Lakshadweep, with notes on its Taxonomy in India¹². The present finding is the first record of live form of the Sea slug from Pulicat Lake along Coromandal Coast of Bay of Bengal, India (Fig.1).

Materials and Methods

During our regular sampling and study on marine molluscs from the Pulicat Lake, we have come across *Aplysia fasciata*, quite uncommon from this coast until now; and the sea slug was caught approximately 5 km south-east off Pulicat Lake at a depth range of 2 to 4 m (13° 26' to 13° 43' N latitude and 80° 03' to 80° 81' E longitude) by using a shore seine net in a traditional fishing craft (Fig. 1). Specimen was identified as *Aplysia fasciata* through the analysis of its typical characteristic features. It inhabits shallow water muddy. It often likes to hide



Fig. 1 — Map and Collection site of Mottled Sea Hare, *Aplysia fasciata* from Pulicat Lake, TN.

in sea weeds and sea grass while feeding on algae or sea weeds. The collected specimens were preserved in 70% (v/v) ethanol and for its photographic documentation and detailed study; Cyber-Shot Sony 16.2 megapixel camera was used. Aplysids, commonly known as sea hares, are typically large, soft and fleshy bodied nudibranch sea hare with a pair of broad, blunt oral tentacles, enrolled rhinophores, a pair of lateral tough leathery parapodia, and often a defensive ink gland and an opaline gland. *Aplysia fasciata*, commonly known as mottled sea hare, or the sooty sea hare is an Atlantic species of sea hare, a marine nudibranch gastropod molluscs. The body of sea hare is bulky, soft and globular in shape. There is no body outer shell cover. The body colour varies from light brown to dark red-brown or red-purple. The other features including presence of lighter colour mottling on head, neck and wings, two rounded oral tentacles on head region, and rhinophores behind oral tentacles on neck region with tiny and dark eyes in front of rhinophores. Parapodia (wing like flaps) lie on the dorsal sides of the body and are attached behind rhinophores and joined to the posterior portion of body (Fig. 2).

The tail is short and rounded having a flap on its back covering gills and internal organs of the specimen and has an internal shell which is wide, light amber in colour, conclave, slightly hooked at apex region. Ink gland inside the mantle region secret purple ink during any stress condition or when its life is threatened.

Results and Discussion

Phylum: Mollusca, Class: Gastropoda, Subclass: Heterobranchia, Infraclass: Opisthobranchia, Order:

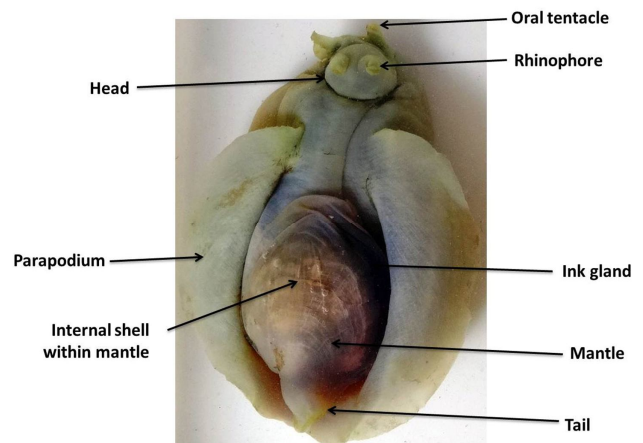


Fig. 2 — Different body parts of Mottled Sea Hare, *Aplysia fasciata* collected from Pulicat Lake.

Anaspeida, Superfamily: Aplysioidea, Family: Aplysiidae, Genus: *Aplysia*, Species: *fasciata*, Synonym: *Aplysia brasiliiana*.

The total body length and weight of mottled sea hare varied from 11.2 to 13.2 cm and 60.46 to 95.97g, respectively (Figs 3, 4). The body color is often black or dark brown with an orange or red line. Internal shell is small light yellowish with central calcified region and flexible periphery. Total length of internal shell ranged from 42 mm to 51 mm (Fig. 5)

The sea hare/sea slug is the source of many secondary metabolites, such as anti-cancer, anti-tumor and anti-viral compounds which are very useful in the pharmacological industry. In India, sea slugs have been used for the extraction of natural anti-cancer compounds like Cemadotin, Soblidotin, Kahalalide F and Synthadotin/ILX651². The fishery of sea slug or sea hare is in infancy stage as it is not consumed as food in India. However, most of the times sea hares

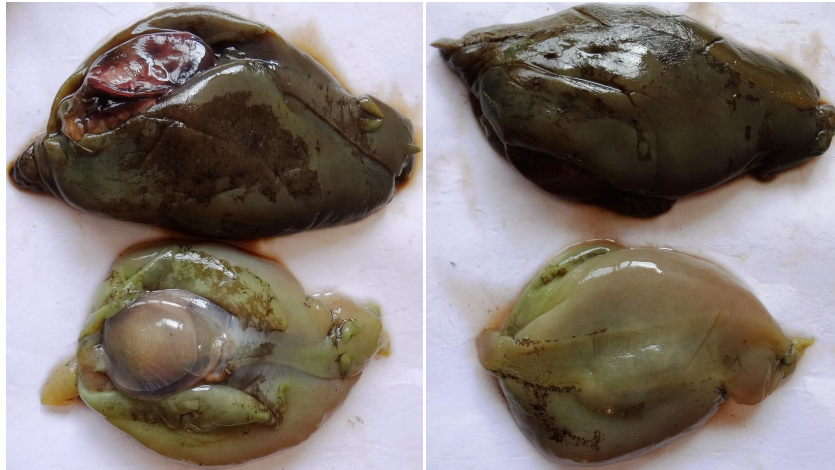


Fig. 3 — Fresh specimen of Mottled Sea Hare, *A. fasciata* (Dorsal & Ventral views) collected from Pulicat Lake



Fig. 4. Dorsal and Ventral views of Mottled Sea Hare, *A. fasciata* in water from Pulicat Lake. TN.

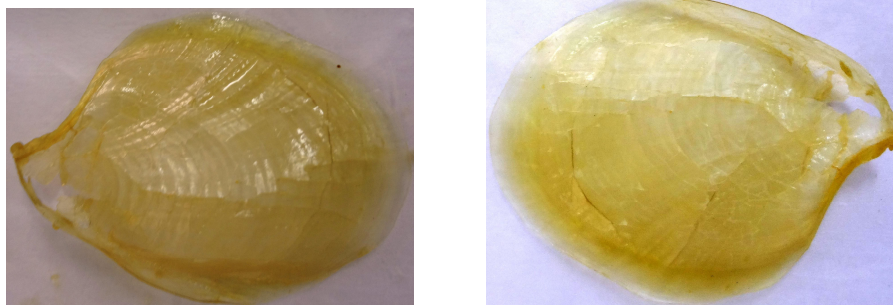


Fig. 5 — Internal shell (Dorsal & ventral side) of Mottled Sea Hare, *A. fasciata* showed light yellowish with central calcified region and flexible at periphery portion.

are discarded in the sea itself as it is considered as a low or less value catch fishes but nowadays sea hares caught by trawlers as by-catch have been used for poultry, shrimp and fish feed industry.

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