



Short Communication

First record of a rare sunfish, *Mola mola* (Linnaeus, 1758) from coastal waters of West Bengal, India

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Abstract

The rare Ocean sunfish, *Mola mola* (Linnaeus 1758), is reported herewith first time from West Bengal coast of India based on two specimens collected from Digha Mohona (21°37.843'N, 87°32.827'E) by using trawl nets. This forms the second sunfish species from this coast after *Ranzania laevis* was recorded 18 years back. Past records of this species in Indian waters also discussed.

Keywords: First record, *Mola mola*, Molidae, Sunfish, West Bengal

Introduction

The members of family Molidae, commonly known as Ocean Sunfish, comprises three genera and five species: *Masturus lanceolatus* (Liénard, 1840), *Mola mola* (Linnaeus, 1758), *Mola alexandrini* (Ranzani 1839) [= *Mola ramsayi* (Giglioli, 1883)], *Ranzania laevis* (Pennant, 1776) and the recently described *Mola tecta* Nyegaard *et al.*, 2017 (Nyegaard *et al.*, 2017; Sawai *et al.*, 2017). Family Molidae is monophyletic among highly derived order Tetraodontiformes (Pope *et al.*, 2009). They have unique body with truncated anatomy, having no caudal bones, ribs and pelvic fins; posterior end of body reduced to a leathery flap or pseudocaudal (clavus). The ocean sunfish *Mola mola* (Linnaeus, 1758) is a large pelagic species found in all tropical and temperate waters, from a few metres to more than 800 m deep (Potter and Huntting, 2011). *Mola mola* is possibly the heaviest bony fish in the world, weighing up to 2.3 t (Roach, 2003). The occurrence of sunfish in any sea is very rare event. Present study reports this species from West Bengal coast for first time.

Material and Methods

Two specimens (MARC/ZSI/F 4629, 780-685 mm) of *Mola mola* were collected from Digha Mohona (21°37.843'N,

87°32.827'E) by using trawl nets. Photographs were taken on the field and morphometric measurements were made from specimens preserved in 10% formalin. Identification was based on the work of Fraser-Brunner (1951), Nyegaard *et al.* (2017) and Sawai *et al.* (2017). Measurements were taken with digital callipers to 0.1 mm. The specimens were deposited in the laboratory of Marine Aquarium and Regional Centre, Zoological Survey of India, Digha, West Bengal.

Results

Systematic Account

Order TETRAODONTIFORMES Berg, 1940

Family MOLIDAE Bonaparte, 1835

Genus *Mola* Koelreuter, 1766

Mola mola (Linnaeus, 1758)

1758. *Tetraodon mola* Linnaeus, *Systema Naturae*, (Ed. X) 1: 334 (Type locality: [In M. Mediterraneo] Mediterranean Sea).

2017. *Mola mola*: Sawai *et al.*, *Ichthyol. Res.*, **65** (1): (12).

Diagnostic Characters: Body short, deep, highly compressed laterally, almost circular in lateral profile and devoid of

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caudal peduncle and typical caudal fin. Mouth small, terminal; teeth beak like, united and without median suture, palatine teeth absent. Gill opening small located in front of pectoral fin. Dorsal and anal fin very high with short base, located to opposite to each other and both are triangular in shape; pectoral fin upward directed, small and rounded; ventral fin absent; caudal fin replaced by leather like lobe called pseudocaudal fin or clavus, the edge of the clavus rounded without a distinct median extension, supported by 12 fin rays elements of which 8 bears ossicles which are widely separated, less broad than spaces between them. Skin leathery covered with small conical scales.

Colour: Body colour grey with silver shade on the ventral side and dark shade on the dorsal side and fins.

Morphometric Characters

Characters	Measurement
Dorsal soft rays	15
Anal soft rays	14
Pectoral soft rays	12
% of Total length	
Standard length	87.64-88.03
Head length	30.89-31.44
Body depth	63.67-66.22
Eye diameter	8.02-8.34
Snout length	16.85-17.44
Clavus	12.35-12.02
Preanal length	51.82-52.32
Predorsal length	58.23-58.54
Prepectoral fin length	34.12-34.87
Preorbital length	1.62-1.79

Distribution: Circumglobal in all tropical and temperate seas. Eastern Pacific: British Columbia, Canada to Peru and Chile. Western Pacific: Japan to Australia. Eastern Atlantic: Scandinavia to South Africa. Western Atlantic: Canada to Argentina (Froese and Pauly, 2017). This species recently reported from Iceland (Palsson and Astthorsson, 2016), Black Sea (Ozturk and Ozbulut, 2016) and New Zealand (Nyegaard *et al.*, 2017), also from Norwegian coast (Frafjord *et al.*, 2017).



Figure 1. *Mola mola* (Linnaeus 1758), MARC/ZSI/F4629, 780 mm.

Discussion

The Ocean Sunfish, *Mola mola*, is very rare to be landed on any fish landing centre, since it is marine pelagic fish of open oceanic water. In Indian coastal waters, *Mola mola* (Linnaeus) was first reported from Mumbai, Maharashtra (Khan, 1975). Subsequently, Ram Bhaskar *et al.* (1988) recorded this species from Visakhapatnam, Andhra Pradesh, as first report from east coast of India, Bay of Bengal. In the later years this sunfish was recorded from Gujarat (Monoj Kumar *et al.*, 1998), Tamil Nadu (Chellappa *et al.*, 2002, 2006; Murugan *et al.*, 2007); Calicut, Kerala (Monoj Kumar and Pavithran, 2007) and Karnataka (Praveen *et al.*, 2013). However, this species has not been recorded from West Bengal coast yet (Yennawar *et al.*, 2017). The

only sunfish reported from West Bengal was *Ranzania laevis* (Pennant, 1776) (Kar *et al.*, 2000). The present report of the rare sunfish, *Mola mola* (Linnaeus), forms its first record from West Bengal. Main threat of this species is the high rates of by-catch as in other parts of the world (Silvani *et al.*, 1999; Fulling *et al.*, 2007). It is also evident that fishery by-catch and discards are increasing with increase of fishing efforts and enhanced production along the east coast of India as well as West Bengal coast which not only effect discarded by-catch

but also entire food-web continuously (Vivekanandan, 2013). Observing gradual decline of the species *M. mola*, it is listed as Vulnerable (VU) in IUCN Red Lists category (IUCN 2016).

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