

A new record of a rare species *Masturus lanceolatus* (Point-tail sunfish) from Chennai coastal waters, India

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A single individual point tailed sunfish *Masturus lanceolatus* was landed at Kasimedu fishing harbour, Chennai coast by gill netter, for the first time. In the present study, morphometrics and meristic measurements of the sunfish were made, which was found to be 120 cm long and weighed approximately 44 kg. The specimen has been compared with earlier reports.

[Keywords: Point-tailed sunfish, Kasimedu fishing harbour, Morphometrics and meristics]

Introduction

The order Tetradontiformes including the family Molidae is a diverse marine fish group and contains eight families 64 genera, and 320 species¹. The members of the Family Molidae (molias) are a poorly understood, highly derived group of fishes. These species are truly oceanic and epipelagic in nature, which are distributed in warm, tropical waters in all oceans². The molid species are characterized in having a distinctive laterally compressed shape and “chopped-off” appearance³⁻⁴, using median fins for swimming, lacking caudal bones, ribs, pelvic fins, spines or girdles and have fewer vertebrae than any other fish⁵.

The point-tailed sunfish *Masturus lanceolatus*

lanceolatus was first described from MAURITIUS under the name of *Orthogoriscus lanceolatus*⁷ and was later re-described by Gill (1884)⁸. The first occurrence of *M. lanceolatus* was observed from the Mumbai coastal waters⁹. The incidence of this species is very rare; so far only few observations (Gulf of Mannar¹⁰, Tuticorin¹¹, Tuticorin¹², and Ervadi¹³) were made in Indian waters as well as other parts of the world¹⁴⁻¹⁶. In the present study, we observed *M. lanceolatus* that landed for the first time on 12th June, 2016 at Kasimedu fishing harbour, Chennai coast Fig. 1.

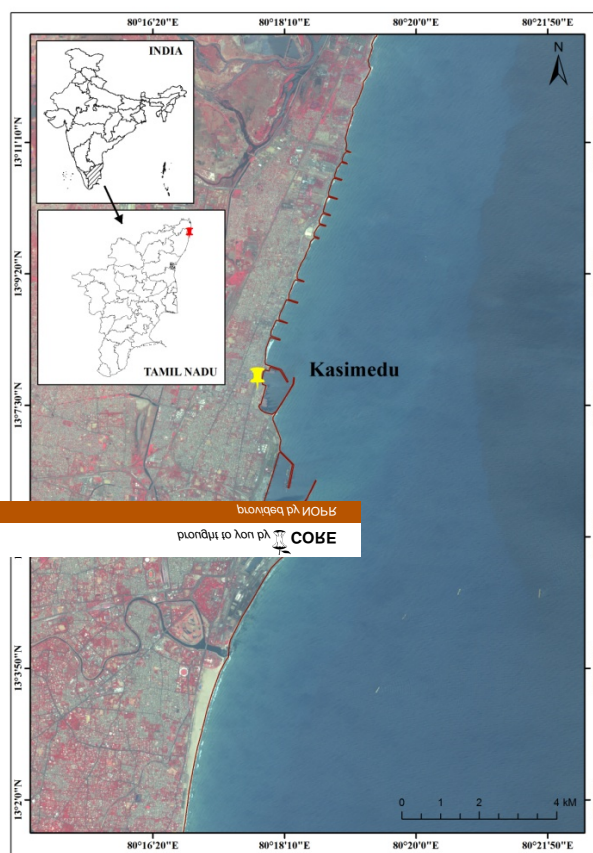


Fig. 1 — Map showing the location of the study area on the Kasimedu fishing harbour, Chennai coast.

Materials and Methods

A single specimen of *M. lanceolatus* was collected from gill net catch in the Kasimedu fish landing centre. The fish was caught at a depth of around 180-220 m during the early hours of June 12, 2016. The morphometric and meristic measurements were taken in fresh condition. Morphometric and meristic data is provided in Table 1 and compared with earlier

records of the sunfish reported from other Indian waters and Oman Sea^{17, 4, 18, 2}.

Results

Systematics

Order : Tetraodontiformes Berg, 1940

Family : Molidae Bonaparte, 1835

Table 1 — Morphometric and meristic characteristics of *Masturus lanceolatus* from Chennai coastal waters

Morphometric characters (cm)	Arumugam et al., (1994)	Chellappa et al., (2002)	Badruddeen (1995)	Nair et al., (2007)	Das et al., (2012)	Jawad et al., (2013)	Pratush Das et al., (2014)	Prakash et al., (2015)	Naranji et al., (2016)	Present study
Total length	153.5	115	183	170.5	127	97.5	147	135	139	120
Head length	42.5	31.8	43	NA	NA	41.5	42	40	42	36
Standard length	126.5	89	154.2	120.5	90	NA	127	100	106	94
Eye diameter	6	5.5	6.4	70	5	7.5	6.5	5	NA	6
Pre orbital length	17.5	NA	NA	NA	NA	16.5	18.1	NA	12	NA
Post-orbital length	NA	NA	NA	NA	NA	19.5	21.2	NA	NA	NA
Snout length	NA	13.1	18	22	14.5	NA	17.2	12.5	15	13.5
Pre dorsal fin length	86	64.4	NA	NA	NA	90	87	NA	NA	68.1
Height of dorsal fin	53.5	40.3	62	NA	42	63.5	86	NA	NA	41.2
Pectoral fin length	16.5	12.3	20	NA	13	18.5	22.5	NA	NA	13.4
Pre pectoral fin length	35	28	NA	NA	NA	48	35.5	NA	NA	33.1
Height of anal fin	52.5	39.3	57	NA	40	61	74	NA	NA	42.3
Pre anal fin length	85	63.2	NA	NA	NA	94	85.5	NA	NA	67.2
Pre anus length	82	61.4	NA	NA	NA	96.5	82.5	NA	NA	65
Tail length	26.5	19.8	NA	NA	NA	32	28.5	NA	NA	24.1
Body depth	81.5	60.9	87	89	NA	86.5	73	68	57	64.5
Inter-orbital distance	21.9	16.5	NA	NA	18.2	NA	22.3	NA	NA	20.1
Snout to insertion of dorsal fin	86	64.4	NA	NA	70	NA	88.5	NA	82	69.1
Snout to insertion of anal fin	85	63.2	NA	NA	57	NA	87.5	NA	62	67.4
Snout to anus	82	61.4	NA	NA	54	NA	84.5	NA	58	66.3
Snout to insertion of pectoral fin	37.5	28	NA	NA	29	NA	38.5	NA	360	32.8
Dorsal tip of clavus	56	42	NA	NA	NA	NA	57.5	NA	NA	46.7
Width at head region	73	54.6	NA	NA	51	NA	76.4	NA	NA	59.1
Width at middle region	81.5	60.9	NA	NA	65	NA	87.2	NA	NA	65
Length of mouth	7.5	5.6	NA	NA	4.5	NA	8.5	NA	NA	7.9
Width of mouth	9	6.6	NA	NA	6	NA	9.5	NA	NA	9
Length of gill opening	6.2	4.6	NA	NA	4.3	NA	6.5	NA	5.6	5.9
Base of dorsal fin	24	17.9	NA	NA	22	NA	25.5	28.5	36	21.2
Base of anal fin	52.5	15.7	NA	NA	20	NA	55	NA	22	20.6
Pectoral breadth	14	10.4	NA	NA	11	NA	16.2	6.5	15	14.5
Weight (Kg)	62	40	NA	NA	70	NA	100	NA	NA	44
Sex	Male	Male	NA	NA	Male	NA	Female	NA	NA	Male
Meristic characters										
Dorsal soft rays	NA	NA	NA	NA	NA	19	NA	NA	18	18
Anal soft rays	NA	NA	NA	NA	NA	19	NA	NA	18	18
Pectoral fin rays	NA	NA	NA	NA	NA	10	NA	NA	NA	10

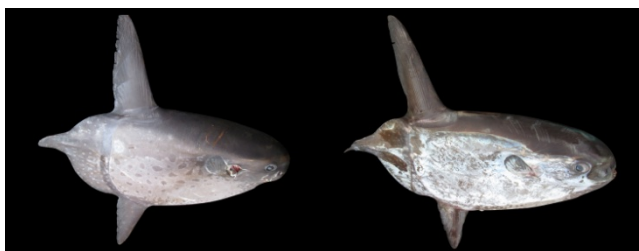


Fig. 2 — Point-tailed sunfish *Masturus lanceolatus* (Lienard, 1840) 120 cm TL (A) Dorsal view (B) Ventral view



Fig. 3 — Gill opening of *Masturus lanceolatus* (Lienard, 1840)

Genus : *Masturus* Gill, 1884 *Masturus lanceolatus* (Lienard, 1840)

Description of the Species

The body was oval in shape, laterally compressed, and vertically truncate with thick and leathery rough skin due to the presence of minute tooth like scales called denticles and less mucous (Fig. 2). The mouth was very small and the teeth were fused into a single element forming beak like plates. The dorsal and anal fins were similar in shape, placed posteriorly, with the base of the dorsal fin longer than that of the anal fin (Fig. 3). The dorsal and anal fin lobes were continuous to form a clavus in the place of caudal fin. The gill opening was very small in front of pectoral fins. The colour of the specimen was blue to dark grey on the dorsal surface, with silvery white abdomen, while the ventral surface was white in colour. The vertical fins were almost dark to dark brown in colour.

Discussion

Ocean sunfish inhabit a wide range of depths and move extensively across the entire water column¹⁹. They are oceanic and epi-pelagic in nature, but occasionally sighted at the surface waters, far-off from the coast. In the daytime, they spend mostly at a depth of 50-200 m and at nighttime at a depth of 100-250 m. The favourable temperature for sunfish is above 20 °C²⁰⁻²¹.

Masturus lanceolatus is extensively distributed in tropical and subtropical waters²². It has been found in all tropical and temperate waters excluding the eastern Pacific²³. Usually they live in the Western Atlantic, Nova Scotia to South-western Brazil, European waters, Gulf of Mexico, Mauritius, New Zealand, Seychelles, South Africa²⁴⁻²⁵.

The occurrence of *M. lanceolatus* along the Indian waters is uncommon; only few species have been reported. In India, it was first observed at Mumbai coastal waters⁹. After a long period (23 years), the same species was again observed at Gulf of Mannar¹⁰. In 1994, the same species was recorded for a second time from the same locality¹¹. In the next year, the largest sunfish ever recorded from Indian waters was also reported from Periyapattinam, Gulf of Mannar²⁶. Seven years later, the same species was reported at Cuddalore waters²⁷. Subsequently, it was reported at Tuticorin¹², Gulf of Mannar biosphere¹³, Parangipettai²⁸, South-west coast of India²⁹, Lakshadweep Islands³⁰, Cuddalore waters³¹ and Visakhapatnam coastal waters³². The present specimen was caught off Chennai coast, landed in Kasimedu fish landing centre during June, 2016. Based on the above said literature, it is evident that the current reporting of the seafish is the 14th record in India and first ever report in Chennai coastal waters (Table 2).

To the best of our knowledge, the biological information related to the sunfish is scanty and the world-wide population trends of these sunfish are still unexplored. This species is frequently observed in Indian waters; hence, the necessary study to be carried out to know the population structure and also status of the stock assessment of the species in Indian continent.

Table 2 — Earlier records of Point tail sunfish *Masturus lanceolatus* from Indian waters from 1953-2016

Sl. No	Author/s	Year of Records	Species	Place of collection	TL (Cm)	Remarks
1	Kulkarni (1953)	1953	<i>M. lanceolatus</i>	Bombay	92.5	First ever record of sunfish from Indian waters
2	Devaraj <i>et al.</i> (1976)	1976	<i>M. oxyuropterus</i>	Gulf of Mannar, Tamil Nadu	88.0	First report of the species
3	Arumugam <i>et al.</i> (1994)	1993	<i>M. lanceolatus</i>	Tuticorin, Tamil Nadu	153.5	Second largest sunfish landed in India
4	Badruden (1995)	1995	<i>M. lanceolatus</i>	Periyapattinam, Gulf of Mannar, Tamil Nadu	183.0	First record of the species
5	Senthilkumar (2001)	2001	<i>M. lanceolatus</i>	Cuddalore, Tamil Nadu	52.9	--
6	Chellappa <i>et al.</i> , (2002)	2002	<i>M. lanceolatus</i>	Tuticorin, Tamil Nadu	15.0	--
7	Ramamoorthy <i>et al.</i> (2007)	2007	<i>M. lanceolatus</i>	Ervadi, Gulf of Mannar, Tamil Nadu	84.0	--
8	Das <i>et al.</i> (2012)	2011	<i>M. lanceolatus</i>	Parangipettai coast, Tamil Nadu	127.0	Rare catch of sunfish
9	Nair <i>et al.</i> (2013)	2013	<i>M. lanceolatus</i>	Kochi, Kerala	170.5	Rare occurrence of sunfish
10	Pratyush Das <i>et al.</i> (2013)	2013	<i>M. lanceolatus</i>	Lakshadweep Islands	147.0	Third largest sunfish landed in India
11	Prakash <i>et al.</i> (2015)	2015	<i>M. lanceolatus</i>	Cuddalore, Tamil Nadu	135.0	DNA barcoding of sunfish
12	Naranji <i>et al.</i> (2016)	2016	<i>M. lanceolatus</i>	Visakhapatnam, Andhra Pradesh	139.0	First record of sunfish
13	Present study	2016	<i>M. lanceolatus</i>	Kasimedu, Chennai, Tamil Nadu	120.0	First record of this species from Chennai coast

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