

Short Communication

First record of *Lethrinus olivaceus* Valenciennes, 1830 (Perciformes: Lethrinidae) from the northern east coast of India

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The Long-face emperor, *Lethrinus olivaceus* Valenciennes, 1830, a reef-associated fish, was collected from the Gopalpur coast, Odisha. This study provides first record information of the species from the Odisha coast and also gives attention to the protection of this species by recommending conservation of coral reef-laden benthic habitats. Earlier, this species was reported along the southernmost tip of India (Wadge Bank); however, the present study reports the species from the northern part of the east coast of India.

[**Keywords:** Long-face emperor, New record, Odisha coast, Reef fish]

Introduction

Family Lethrinidae is copious in the shallow seas of the Indo-Pacific region¹. *Lethrinus olivaceus* Valenciennes, 1830, commonly known as Long-face emperor, belongs to the family Lethrinidae. The family comprises about 45 valid species². In India, it is represented by five genera and 24 species³. In Odisha, only *Lethrinus nebulosus* (Forsskal, 1775) has been reported⁴.

During a local survey, one specimen of the family Lethrinidae was found which was identified as

Lethrinus olivaceus Valenciennes, 1830. The present study gives the new record information of *L. olivaceus* from the Odisha coast, the northern part of the east coast of India.

Materials and Methods

A specimen of *Lethrinus olivaceus* was collected from fishers by hook from the Gopalpur coast (19°15'55.13" N; 84°55'4.56" E), Odisha, along the northern part of the east coast of India on 6th November 2018. After collection, a photograph (Fig. 1) was taken, and meristic counts were recorded. Morphometric measurements were taken using a measuring tape and digital calipers to the nearest 0.1 mm. It was followed by the preservation of the specimen using 10 % formaldehyde. The collected specimen is subsequently identified as *Lethrinus olivaceus* Valenciennes, 1830 following standardized literature^{5,6}. The specimen is deposited in the Estuarine Biology Regional Centre, Zoological Survey of India, Gopalpur-on-Sea, Odisha (EBRC/ZSI/ F10715).

Results

Systematics

Order: Perciformes

Family: Lethrinidae

Genus: *Lethrinus* Cuvier, 1829

Lethrinus olivaceus Valenciennes, 1830: Long-face emperor

Materials examined

EBRC/ZSI/F10715, 1 specimen, 415 mm SL. Collection site: Gopalpur coast, Odisha, India.



Fig. 1 — *Lethrinus olivaceus* Valenciennes, 1830

Diagnostic characters

The species is identified by the presence of the following distinguishing characteristics: Moderately elongated body with depth 3.5 times that of standard length. Head length 0.8 times the depth of the body. Body slender and covered by cycloid scales; anus about the middle of the body; snout pointed with clearly visible lips, its length without lips 0.7 times in cheek height; lateral teeth in jaws conical; cheek devoid of scales; interorbital space convex to flat, operculum scaly towards the posterior end, lateral line slightly curved below the dorsal fin and runs straight towards caudal peduncle with 48 scales; 5½ scale rows between lateral line and base of middle dorsal-fin spines & 17 transverse series of scale rows present in between origin of the anal fin and lateral line. Seven scales on supratemporal patch. These characteristics separates the species from its congener, as described in the discussion. Dorsal fin originates before the level of pectoral fin origin; third dorsal fin spine is the longest among the dorsal spines; pectoral fin originates below the level of opercular margin, and the base of its inner surface lacks scales. The details of morphometric measurements and the meristic formula are provided in Table 1.

Colour

Body light grey with scattered irregular dark blotches in a fresh specimen, and colour becomes whitish towards the ventral side. Wavy dark streaks on the snout were observed at the landing centre but become faded over. Upper jaw slightly reddish. Dorsal, anal fin membrane is pinkish. The membrane between the rays of the pelvic fin with dense melanophores.

Distribution

The species is distributed in New Caledonia, Thailand, Maldives, Guam, the Philippines, French Polynesia, Australia, Indonesia, and India⁷. In India, it is found Wadge Bank^{6,8} off the southern tip of India (Kerala and Tamil Nadu).

Discussion

Long-face emperor, *Lethrinus olivaceus* shows very similar morphological characteristics to that of Smalltooth emperor, *Lethrinus microdon* Valenciennes, 1830. However, the important diagnostic character that differentiates *L. olivaceus* and *L. microdon* is number of longitudinal scale rows between the lateral line and the base of middle dorsal-fin spines, 5½ in *L. olivaceus* vs. 4½ in *L. microdon*⁵. Apart from that, *L. microdon* bear 9 – 11 scales on supratemporal patch⁵; whereas,

Table 1 — Morphometric measurements and meristic counts of *Lethrinus olivaceus* Valenciennes, 1830 from the Odisha coast

Characters	Current Study
Total length, mm	495
Standard length, mm	390
Fork length, mm	105
<i>Meristic counts</i>	
Dorsal-fin rays	X,9
Anal-fin rays	III,8
Pectoral-fin rays	13
Pelvic-fin rays	1,5
Supratemporal patch scales	6
Lateral-line scales	49
Scales above lateral line	5
Scales below lateral line	16
<i>Measurements as % of standard length</i>	
Snout length	20.5
Snout length excluding lips	17.4
Head length	36.4
Head width	15.8
Body depth	30.3
Predorsal-fin length	40.8
Dorsal-fin base length	45.4
Prepectoral-fin length	36.9
Pectoral-fin length	20.3
Prepelvic-fin length	20.1
Pelvic fin length	21.0
Preanal length	64.6
Anal-fin base length	16.9
Caudal-fin length	25.9
Caudal-fin median ray length	7.9
1 st dorsal-fin spine length	6.7
2 nd dorsal-fin spine length	10.5
3 rd dorsal-fin spine length	10.8
4 th dorsal spine length	10.5
Pelvic spine length	13.1
1 st anal-fin spine length	3.8
2 nd anal-fin spine length	6.4
3 rd anal-fin spine length	7.9
Caudal-peduncle depth	11.5
<i>Measurements as % of head length</i>	
Snout length	56.3
Snout length excluding lips	47.9
Upper-jaw length	34.5
Lower jaw length	33.1
Eye diameter	18.3
Interorbital width	22.5

L. olivaceus bear seven. The species *L. olivaceus* was reported earlier from the Wadge Bank off the southern tip of India, which comprises both Southeast and Southwest Coast (Kerala & Tamil Nadu) of India^{6,8}. The species has also been reported from Tamil Nadu coast⁹ and Andaman & Nicobar Islands¹⁰. The current reporting of *L. olivaceus* is the first occurrence record

from the Odisha coast, the northern part of the east coast of India.

The results of the present study can provide new insight into the non-reported and unrecorded fish diversity of the Odisha coast. This is an important report because the species is mainly non-migratory and reef-associated¹¹⁻¹⁴. Previous reports¹⁵⁻²⁰ of reef associated fishes from Gopalpur coast, Arjipalli landing centre as well as from the Paradeep coast of Odisha is the clear indication of the presence of corals along the southern Odisha coast. Hence, exhaustive and systematic efforts should be made to confirm the existence of reefs and conserve the reef-laden benthic habitats along the southern Odisha coast and to report the unreported faunal diversity.

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Conflict of Interest

Authors don't have any conflict of interest.

Author Contributions

SRM: Collection, preservation, identification and manuscript preparation; LP & AM: Identification, manuscript preparation and critical analysis.

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