First record of escolar, *Lepidocybium flavobrunneum* (Smith, 1843) from the Indian EEZ of Andaman Sea

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A single specimen of 485 mm total length, weighing 3.2 Kg was caught by a multiday longliner boat and landed at Junglighat fishing harbour, Port Blair on 24th July 2016. The specimen was collected from a depth of 530 to 660 m in the Andaman Sea.

[Keywords: Snake mackerel, Gempylidae, escolar, South Andaman, Junglighat]

Introduction

Members of the family Gempylidae are adapted to mesopelagic or benthopelagic life and most of them are large and swift predators1,2. There are 16 genera and 23 species known so far under the family Gempylidae. The snake mackerels are intermediate between tunas and trichiurids with both elongate and fusiform body shapes in suit of their ecological niche. Brownish or blackish colour of the body also acts as an adaptive feature for such an existence1.

The gempylid fish, *Lepidocybium flavobrunneum* (Smith, 1843) commonly known as escolar is a large, mesopelagic fish that inhabits tropical and temperate seas throughout the world. Most of the reports are from the Atlantic and Pacific Ocean1. The species is reported from North West Africa, Madeira Islands3; New South Wales4; Gulf of Mexico5; Bahamas6; Isles Comores in the Indian Ocean7; New Caledonia8; New Zealand9; North West Spain10-11; West Portugal12 and Ireland13. In Australia it is recorded from southern Queensland around the south of the continent and up the west coast to the north-west Shelf of Western Australia14. In contrast to its wider range of distribution throughout the tropics, reports from the Indian Ocean was limited by the occurrence of this species during 2004-06 in the landings of large meshed gill nets operated off the Tuticorin coast in the Gulf of Mannar and from the Nagappattinam coast North East coast of India15. The IUCN Red List of Threatened Species lists the status of *L. flavobrunneum* as “Least Concern”16.

Materials and Methods

A single specimen of *Lepidocybium flavobrunneum* was collected from Junglighat fishing landing center, Port Blair, South Andaman. It was caught in the multiday longliner operated at a depth of 530-660m in the waters of Andaman sea of Indian Exclusive Economic Zone (EEZ). The specimen was identified following the description of Nakamura and Parin1. Morphometric and meristic characters were recorded. Gut content was analyzed to look into their feeding habits. Specimen was preserved in the museum of the zonal base of Fishery Survey of India, Port Blair (referral no. MUS/FSI/PB/T/08/2016).
Results

SYSTEMATICS
Order: Perciformes (Bleeker, 1859)
Family: Gempylidae (Gill, 1862)
Genus: Lepidocybium (Gill, 1862)
Species: flavobrunneum (Smith, 1843)
Synonyms: Cybium flavobrunneum Smith, 1843; Xenogramma carinatum Waite, 1904; Nesogrammus thompsoni Flower, 1923; Diplogonurus maderensis Noronha, 1926; Lepidosarda retigramma Kishinouye, 1926.

Specimen Examined: Female, 485mm TL, 3.2 Kg whole body weight.

Diagnosis

Body fusiform and slightly compressed, body depth is 17.7% of the total length of the specimen. Head pointed and compressed at nape. Head length is 3.84 times the standard length. Snout region is broad with inter orbital width of 39 mm. Eye diameter is 26 mm which is 20.6 % of the head length and 5.4% of the total length. They have well separated oval, small nostrils on either side of the head. Operculum and pre operculum rounded, without spines. The lower jaw slightly protruded than the upper jaw and tip of both jaws without dermal processes. Length of the upper jaw is 11 times of the total length. Presence of stronger fang like teeth, two pairs anteriorly in the upper jaw is a distinctive feature; vomer and palatines each with a single row of teeth.

The size of the first dorsal fin is smaller than the second dorsal fin, consisting of 9 short spines originated from a narrow groove. Second and third spine of this specimen was in a broken condition. The second dorsal fin has 18 soft rays followed by 6 finlets; anal fin also has two spines and 14 soft rays; pectoral fins with16 soft rays; pelvic fins well developed, with 1 spine and 5 soft rays. Dorsal fins are placed at a distance of 4.7 times of the total length of the specimen. Caudal fin deeply forked but small, with a prominent lateral keel on caudal peduncle flanked by 2 smaller supplementary keels, one on each side of the lateral keel.

Small cycloid scales present over the head and body, snout and upper part of the head is devoid of scales. Single serpentine lateral line present. It originates from the dorsal region in line with the opercular partition, then descending vertically around the pectoral fin towards the ventral margin. After a straight portion in parallel to belly it rises abruptly, and then descends again to the anal and at last joins with the keel of the caudal peduncle.

Color

Body uniformly dark brown

Discussion

Morphometric measurements and meristic counts (Table 1) fall within the range of the species given1, 9, 13 and the specimen were identified as Lepidocybium flavobrunneum based on the keys given7. The L. flavobrunneum is an oceanodromous species that occur between 200 and 1100 m depths17 but mostly confined to depths of 100 to 500 m of the continental shelf margin and the upper part of the slope18. It often migrates upward at night1, 2. Even though the targeted fishery is not there, the escolar appears as bycatch in the tuna longline caught usually at depths from 100 to 300 m. In New Zealand waters L. flavobrunneum is taken with other large pelagic fishes such as the sharks, marlins, and large tunas, and another gempylid, Ruvettus pretiosus9.

The maximum recorded standard length (SL) for L. flavobrunneum was 200 cm1 and the maximum weight is 45.0 kg19. Present specimen is a female with a total length of 48.5 cm and 3.2 kg in weight. Head length is 3.6 to 3.7 times the standard length1, the present specimen head length is 3.84 times the standard length. Members of the family Gempylidae have lateral-line patterns similar to either trichiurids or scombrids depending on their habitat orientation. The characteristic pattern of lateral line in escolar is in tune with its mesopelagic habitat1.

A few studies have explored the biology and ecological status of escolar, and little is known about its population structure20. It feeds mainly on squid, crustaceans and fishes like bramids, coryphaenids, scombrids, trachipterids and often migrates upwards at night1. The gut of the present specimen consists of digested squid and juvenile bramids.
The *L. flavobrunneum* is widely distributed in tropical and temperate seas of the world, but probably absent from the northern Indian Ocean\(^1\). The present report confirms the range extension of this species in the Southeast of the Bay of Bengal i.e., Andaman Sea.

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**References**


