

First report on occurrence of smooth back guitar fish, *Rhinobatos lionotus* from Pondicherry (Puducherry) coastal waters, South east coast of India

*S. Nithya Mary, V. Ravitchandirane and B. Gunalan¹

Department of Zoology,
Kanchi Mamunivar Government Institute for Post Graduate Studies and Research,
Pondicherry University, PUDUCHERRY, INDIA.

¹ Department of Zoology,
Thiru Kolanjiappar Government Arts College,
VIRUDHACHALAM, Thiruvalluvar University,
(TAMILNADU) INDIA.

*Corresponding Author

Email: sofinithy@gmail.com, Orcid id: 0000-0003-4183-7520

Received : 01.09.2021; **Revised** : 20.09.2021; **Accepted** : 12.10.2021

ABSTRACT

There is no aimed fishery for guitar fish in India, but these are mainly caught as bycatch of bottom set gill net and trawl fisheries. Batoids, particularly rays and guitar fish occupies more than 50% of the total elasmobranch landings in India. Basically there is no study on diversity and taxonomy of skates in India. In the present study Smooth back Guitar fish, *Rhinobatos lionotus* recorded as a first report in Pondicherry coastal waters.

Figures : 04

References : 09

Table : 00

KEY WORDS : Batoids, First report in Pondicherry coastal waters, Guitar fish, Nallavadu, Skates, Smoothback.

Introduction

Batoids, particularly rays and guitar fishes, form a major part of the elasmobranch fishery along the Indian coast. They are easily well-known by their flattened bodies, enlarged pectoral fins which are bonded to the head, and ventrally positioned gill slits. Although there is no targeted fishery for batoids in India, they are commonly caught as by-catch, particularly in trawl fishing. Batoids hold more than 50% of the total elasmobranch landings in India. Six species of batoids are protected in India under the Indian Wildlife (Protection) Act, 1972. These consist of two species of rays, one species of guitar fish and three species of rays. With growing global concern over decreasing elasmobranch populations, proper documentation of exploited species and their identification become essential. Guitar fishes are mainly landed along the Kerala coast, Gulf of Mannar and Chennai Kasimedu fish landing centre as a bycatch in commercial fishing

activities like trawling and gill netting, as well as in artisanal gears. The present study documented the Smoothback Guitar fish, *Rhinobatos lionotus* as a first record from Pondicherry coastal waters.

Materials and Methods

Puducherry region is situated on the Coromandal coast between 11° 45' and 12°03'N latitudes and 79°37' and 79°53'E longitudes with an area of 293 km² and the coastal shore line area assessed 24 km. The present study was carried out for a period of 18 months from November 2019 to April 2021 in Nallavadu fish landing centre (11° 51' 32": 79° 48' 56"NW 3543). On Feb 20th 2020 we have recorded the skate *Rhinobatos lionotus* in the bycatch and measurement were taken in the spot itself. Species identified using FAO sheets¹ and CMFRI special publication No.132⁵. Out of eighteen months only one time *Rhinobatos lionotus* was recorded.

ACKNOWLEDGEMENTS : We thank the Director of Kanchi Mamunivar Government Institute for Postgraduate Studies and Research, Puducherry for permitting us to carry out this work. We also thank our PG and Research Department of Zoology for their intellectual support and encouragement. A special thanks to the fishermen of Puducherry who helped and allowed us to observe the specimen.



Fig. 1 : The full view of *Rhinobatos lionotus*

Observation

A single specimen of the Smoothback Guitar fish, *Rhinobatos lionotus* (Fig. 1) was recorded from the Nallavadu fish landing center, Puducherry. It was landed as by-catch from the boat operated at a depth of 70-90 m, at a distance of 15 kms. The guitar fish measured 763 mm in total length (TL), 225 mm in disc width (DW).

Results and Discussion

Systematics

- Class :** Elasmobranchii
- Order:** Rhinopristiformes
- Family:** Rhinobatidae
- Genus:** *Rhinobatos*
- Species:** *Rhinobatos lionotus*

Etymology: *Rhinobatos*: Gr, *rhinos* –nose, *batis*, -idos - a ray, *leios*- smooth, *notos*- back, referring to minute

skin denticles, presumably on dorsal surface, which are “smooth to the touch”.(ETY Project)⁹.

Common Name: Norman’s shovelnose ray, Smooth back guitar fish.

Description

The snout is triangular in shape, with broad flattened wedge shaped disc with strongly depressed trunk (Fig.2). Thin disc, 1.2-1.4 times the width and presence of rostral ridge. Anterior nasal flaps well formed into internasal space. Eyes placed dorsally. Dorsal fins moderately separated by 2.4-2.8 times first dorsal base length (Fig. 3). Body greenish-brown, with numerous dark brown spots; dorsal fin margins dusky posteriorly(Fig.D); ventral side white colour⁸.

Distribution

Workers^{3,4} reported the *Rhinobatos lionotus*



Fig. 2 : The Head region of *Rhinobatos lionotus*



Fig. 3 : The tail region of *R. lionotus*



Fig. 4: The middle region of *R. lionotus*

(smooth back guitarfish) species from Pakistan coastal waters. Researchers^{2,6} reported from their study that the *Rhinobatos lionotus* is known from West Bengal to Myanmar, upper Bay of Bengal (India) and Sri Lanka to possibly Arabian Sea .

Discussion

The morphometric characteristic of the present specimen matches with the FAO sheets and the CMFRI special publication. Workers⁷ reported the stripenose guitar fish, *A. variegatus* in Gulf of Mannar. Demersal fishes contribute certain percentages in total fishery catch from landing centres in Puducherry. Usually, the elasmobranchs fetches good prices in Puducherry, especially for larger specimen. *R. lionotus* locally called as “Pulli thirukai” which means spotted ray. In the present study *Rhinobatos lionotus* recorded in Nallavadu fish landing centre, is a first report to Pondicherry coastal water.

References

1. Fischer W, Bianchi G. FAO species Identification sheets for fishery purpose. 1981.
2. Froese R, Pauly D. Editors. Fishbase. World Wide Web electronic publication. 2019; www.fishbase.org.
3. Hoda SMS. Fishes from the coast of Pakistan. *Biologia (Lahore)* 1988; **34**: 1-38.
4. Hoda SMS. Identification of coastal fish varieties of Pakistan. *Pakistan Agric.* 1985. **7** : 38-44.
5. Kizhakudan SJ, Akhilesh KV, Thomas S, Yousuf KSSM, Sobhana KS, Purushottama G B, Menon M, Dash SS, Manojkumar PP, Nair RJ, Najmudeen TM, Zacharia PU. Field identification of batoids - a guide to Indian species. CMFRI special publication no.132. 2018; 104p. ICAR-Central Marine Fisheries Research Institute, Kochi, India.
6. Last PR, Henderson AC, Naylor GJP. *Acroteriobatus omanensis* (Batoidea: Rhinobatidae), a new species of guitarfish from the Gulf of Oman. *Zootaxa.* 2016; **4144**(2): 276-286.
7. Nair RV, Lal Mohan RS. On a new deep sea skate, *Rhinobatos variegatus*, with notes on the deep sea sharks *Halaelurus bispidus*, *Eridacnis radcliffei* and *Eugaleus omanensis* from the Gulf of Mannar. *Senckenb. Biol.*, 1973; **54** (1/3): 71-80.
8. Norman JR. A synopsis of the rays of the family Rhinobatidae, with a revision of the genus *Rhinobatos*. *Proceedings of the Zoological Society of London.* 1926; **96**(4): 941–982.
9. The ETYFish Project: <http://etyfish.org/rajiformes/>.