



Short Communication

First record of two Myliobatid Elasmobranchs from West Bengal, northern east coast of India

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Abstract

Two elasmobranch fish species *Rhinoptera javanica* Müller and Henle (1841) and *Mobula kuhlii* (Müller & Henle, 1841), of the order Myliobatiformes were reported for the first time from Digha, West Bengal coast. The morphometry and meristic characters of the species from West Bengal coast are provided based on collected materials.

Keywords: Digha, *Mobula kuhlii*, Myliobatiformes, New Record, *Rhinoptera javanica*

Introduction

The Order Myliobatiformes represents 12 families with 374 valid species worldwide (Fricke, *et al.*, 2019). Information on species under the order Myliobatiformes is scanty in Indian waters. During the Ichthyofaunal survey conducted along the Digha coast of West Bengal, India, authors found several elasmobranch species. Following literature survey (Talwar & Kacker, 1984; Talwar, *et al.*, 1992; Venkatraman, *et al.*, 2003; Das, *et al.*, 2007; Sanyal, *et al.*, 2012; Yennawar, *et al.*, 2015) it is observed that two species of elasmobranchs *Rhinoptera javanica* Müller and Henle (1841) and *Mobula kuhlii* (Müller & Henle, 1841) were not reported from West Bengal. This paper reports these two species for the first time from west Bengal coast.

Material and Methods

The species reported here were collected from Digha Mohana fish landing centre of West Bengal. After taking fresh photographs and identification, the specimens are deposited in Marine Aquarium and Regional Center, Zoological Survey of India museum with 10% formaldehyde solution. These specimens were caught by gill net and trawl nets. Identification follows Talwar and Kacker (1984), Carpenter & Niem (1997), Psomadakis, *et al.* (2015, 2020) and Kumar, *et al.* (2018). All Measurements were made by digital calipers with a resolution of 0.1 mm.

Results

The two species reported here for the first time are *Rhinoptera javanica* Müller & Henle, 1841 and *Mobula kuhlii* (Müller & Henle, 1841).

Class ELASMOBRANCHII

Order MYLOBATIFORMES

Family RHINOPTERIDAE

Rhinoptera javanica Müller & Henle, 1841

Javanese cownose ray (Figure 1)

Material examined: MARC/ZSI/F1907, 2 ex, 440-458 mm disc width, Digha Mohana, 24.viii.2011, coll. Dipanjan Ray.

Diagnosis: Body rhombic; head distinct with two subrostral lobes divided by a deep median anterior notch. Disc falcate with convex end, dorsal fin erected at the base of tail. Pelvic fin long and narrow and no anal fin, whip like long tail, with a serrated spine at base. Head, upper surface and lower surface of disc smooth; minute denticles present of tail. Disc width: 440-458 mm; Mouth opening: 48-51 mm; anterior pectoral length 305-309 mm; posterior pectoral length 172-175 mm; pelvic fin: 41-43; head to vent: 230-236 mm; distance between 1st gill opening 72-76 mm. Colour: Upper surface of body brownish and lower surface whitish, Edge of pectoral, dorsal fin dark.

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Figure 1. *Rhinoptera javanica* collected from West Bengal coast.

IUCN Status: Vulnerable (VU).

Distribution: *Rhinoptera javanica* is reported from Tamil Nadu (James, 1962), Andhra Pradesh (Devarapalli, 2017), Odisha coast (Barman, *et al.*, 2007), Gujarat (Barman, *et al.*, 2000), Maharashtra (Raje, 2000), Kerala (Bijukumar & Raghavan, 2015), Karnataka (Barman, *et al.*, 2013). The current report extends its distribution further northern in the Bay of Bengal coast to the West Bengal coast.

Class ELASMOBRANCHII

Order MYLOBATIFIRMES

Family MOBULIDAE

Mobula kuhlii (Müller & Henle, 1841)

Shortfin devil ray (Figure 2)

Material examined: ZSI/MARC/F4001, 1 ex., 682 mm disc width, Digha Mohana, 22.xi.2014, coll. Dipanjan Ray,

Diagnosis: Disk more or less twice as wide as long. Spiracles very small, sub circular and located below the pectoral fin margin where it meets the body - Tail shorter than disc width, no spine at the base of tail, anterior end of pectoral fin convex and posterior end concave. Nasal valves confluent with flap which extends in front of teeth but free at nostrils. Teeth bands not extending to the angle of the mouth. Colour: Dark brown above and whitish below.

IUCN Status: Data Deficient (DD).



Figure 2. *Mobula kuhlii* collected from West Bengal coast.

Distribution: From Indian waters the species was reported from Odisha (Barman, *et al.*, 2007), Andhra Pradesh (Devarapalli, 2017), Tamil Nadu (Barman, *et al.*, 2011), Kerala (Bijukumar & Raghavan, 2015; Bineesh, *et al.*, 2016), Karnataka (Barman, *et al.*, 2013) and Maharashtra (Barman, *et al.*, 2012) either as *Mobula kuhlii* or *Mobula eregoodootenkee* (junior synonym of *Mobula kuhlii*). The current report extends its distribution further northward in the Bay of Bengal to the West Bengal coast.

Discussion

India has been designated as a major elasmobranch fishing nation, for several years (FAO 2013). There are about 171 species of Chondrichthyes were reported from Indian coast (Gopi and Mishra, 2015) but from West Bengal coast only 47 species were reported (Sanyal, *et al.*, 2012). The family Rhinopteridae and Mobulidae are reported here for the first time from West Bengal coast along with species *Rhinoptera javanica* Müller & Henle (1841) and *Mobula kuhlii* (Müller & Henle, 1841), respectively. Certain ecosystems of Indian waters are poorly explored for the study of elasmobranch diversity and require more scientific exploration and investigations as several unrecognized species occurring and many with misapplied names (Akhilesh, *et al.*, 2014). DNA barcoding study from commercial fishery of mainland India indicated towards possibilities for several discoveries of new species/records for India (Bineesh, *et al.* 2016). *Rhinoptera javanica* Müller & Henle (1841) found to be wide spread along the Indian coast. *Mobula kuhlii* (Müller & Henle, 1841) was reported from both

east and west coast of India either by its original name or by *Mobula eregoodootenkee*, which is now treated as a junior synonym (White, *et al.*, 2018). The record of both the species from West Bengal coast agrees with Bineesh, *et al.* (2016) and there is need of more scientific surveys and taxonomical work in this group along the Indian coast.

Acknowledgement

We thank Dr. Kailash Chandra, Director, Zoological Survey of India, Kolkata for providing necessary working facilities.

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