



# International Journal of Fisheries and Aquatic Studies

E-ISSN: 2347-5129  
P-ISSN: 2394-0506  
(ICV-Poland) Impact Value: 5.62  
(GIF) Impact Factor: 0.549  
IJFAS 2017; 5(6): 164-165  
© 2017 IJFAS  
www.fisheriesjournal.com  
Received: 01-09-2017  
Accepted: 02-10-2017

**Md Sagir Ahmed**  
Department of Zoology,  
University of Dhaka, Dhaka,  
Bangladesh

**Abu Obaida**  
Department of Zoology,  
University of Dhaka, Dhaka,  
Bangladesh

**Sumaiya Ahmed**  
Department of Zoology,  
Jagannath University, Dhaka,  
Bangladesh

**Gulshan Ara Latifa**  
Department of Zoology,  
University of Dhaka, Dhaka,  
Bangladesh

**Correspondence**  
**Md Sagir Ahmed**  
Department of Zoology,  
University of Dhaka, Dhaka,  
Bangladesh

## New record of Concertina fish, *Drepane longimana* (Perciformes: Drepaneidae) from the St. Martin's Island, Bangladesh

**Md Sagir Ahmed, Abu Obaida, Sumaiya Ahmed and Gulshan Ara Latifa**

### Abstract

We report the first record of concertina fish, *Drepane longimana* from the St. Martin's Island of Bangladesh. The sample specimens were collected from the St. Martin's Island on 28 November 2015. Morphometric and meristic studies were performed for taxonomic identification. The body was oval and strongly compressed. The mouth was highly protrusible, forming a down ward pointing tube when protruded. A single dorsal fin present with eight to nine (usually eight) spines (fourth spine largest) and 19 to 23 soft rays and the anal fins consists of three spines and 17 to 19 soft rays. The head and body were silvery in color. The presence of four to nine subvertical dark bars on dorsal part of the body from head to caudal fin base, easily distinguish this species from other closely related species of genus *Drepane*. The morphometric and meristic data thus confirm the presence of *D. longimana* in Bangladesh. This report updates the geographical distribution for this species confirming its presence in the coastal region of Bangladesh, and extends the number of marine fish known from the area.

**Keyword:** *Drepane longimana*, St. Martin's Island, new record

### 1. Introduction

The concertina fish, *Drepane longimana* are widely distributed in the tropical and temperate waters from Indo-West Pacific; Red Sea and East Africa to Indonesia; New Guinea and Philippines; North to Taiwan and Japan and South to Northern Australia <sup>[1]</sup>. It is a commercially important fish throughout the world. The species is a marine or brackish water reef-associated amphidromous species with a wide geographical range. It was first described by Bloch & Schneider, (1801) <sup>[2]</sup> from Tranquebar. Cuvier and Valenciennes (1831) <sup>[3]</sup> studied the specimens of the genus *Drepane*, both morphologically and anatomically and distinguished the two species *D. longimana* <sup>[2]</sup> and *D. punctata* (Linnaeus). But subsequently Gunther (1860) <sup>[4]</sup>, Bleeker (1877) <sup>[5]</sup> and Day (1878) <sup>[6]</sup> recognised *D. punctata* only as the valid species. Lele (1924) <sup>[7]</sup> revised the genus *Drepane* and established both anatomically and morphologically, the distinctness of the two species. However, Weber and de Beaufort (1936) <sup>[8]</sup> considered *D. punctata* as valid and relegated *D. longimana* to its synonymy. Smith (1949) believed that, the Genus *Drepane* consists of possibly two species. Murty (1968) <sup>[9]</sup> reported two species of *Drepane* from Indian waters. Only one species, *D. punctata* was so far reported from Bangladesh <sup>[10]</sup>.

This study was conducted to resolve some questionable identification of *Drepane* species found in the southern Island of Bay of Bengal. The presence of *D. longimana* was confirmed based on morphometric analysis of the sample collected from St. Martin's Island.

### 2. Materials and Method

Samples were collected on 28 November, 2015 from St. Martin's Island (20°37'22.9" N 92°19'12.8" E). They were preserved in ice soon after collection and then kept frozen in a laboratory at -18 °C until further use. Morphometric and meristic characteristics were recorded using an FAO species identification sheet. Length was measured in cm scale.

### 3. Results and Discussion

#### Description

Morphometric study showed that body was oval and strongly compressed, its depth 1.2–1.3 in

standard length (SL). Mouth highly protrusible, forming a downward pointing tube when protruded. Caudal fin rounded or bluntly wedgeshaped (almost truncate in large adults); pectoral fins elongate, falciform, reaching caudal peduncle. The pelvic fin well developed with a spine and five soft rays. The color of the head and body is silvery with 4–9 vertical dark bars usually visible on dorsal part of the body from head to caudal-fin base (Fig. 1). The average body weight (gm), total length (mm) and standard length (mm) were recorded as 47.75 (SD±4.55), 114.3 (SD±6.65) and 85.5 (SD±3.45), respectively (Table 1). The head length was one third of its standard length. The eye was moderately large in size and it was 35 percent of head length. The jaws were with bands of setiform teeth and no tooth present on the roof of mouth. The gill arch contains six to eight rakers on upper limb and 10 to twelve on lower limb.

Fin formula: D VIII–IX, 19–23; A III, 17–19; P1 16–18; P2 I, 5; LL46–55; GR 6–8 + 10–12.

**Table 1:** Morphometric and meristic characters of *Drepane longimana* collected from St. Martin's Island.

Morphometric characters	in mm
Weight (gm)	47.75±4.55
Total length (TL)	114.3±6.65
Standard length (% in TL)	85.5(74.8)
Head length (% in SL)	28.5(33.3)
Eye diameter (% in HL)	10.1(35.4)
Preorbital length (% in HL)	4.5(15.8)
Posorbital length (% in HL)	13.9(48.8)
Predorsal fin length (% in SL)	64.1(75.0)
Postdorsal fin length (% in SL)	82.6(96.6)
Prepectoral fin length (% in SL)	30.8(36.0)
Preanus length (% in SL)	41(48.0)
Preanal fin length (% in SL)	51.0(59.6)
Postanal fin length (% in SL)	80.1(93.7)
Maximum body depth (% in SL)	80.5(94.2)
Caudal peduncle depth (% in SL)	13.3(15.6)
Pectoral fin length (% in SL)	52.9(61.9)
Prepectoral fin length (% in FL)	30.8(-)
Meristic characters	
Dorsal fin spines	VIII
Dorsal fin rays	19-22
Anal fin spines	III
Anal fin rays	17-19
Pectoral fin rays	16-18
Pelvic fin spine	I
Pelvic fin rays	5
Caudal fin rays	20

Morphomeristic characteristics of the specimens from the Bay of Bengal fall within the range limit of other specimens reported from the Indian Ocean<sup>[9]</sup>. Meristic counts also fall within the range of previous work<sup>[6, 9, 11]</sup>. The large adults fish with a bump or bony knob on interorbital region, a result of hyperostosis of the frontal bones. *D. longimana* can easily be differentiated from closely related species by its four to nine subvertical dark bars on dorsal part of the body from head to caudal fin base. It occurs usually in inshore waters with sand or mud bottom. The original voucher specimen (DUZM 282B) of *D. longimana* is kept at the Museum of Department of Zoology, University of Dhaka and have public access.



**Fig 1:** *Drepane longimana* (Lateral view).

#### 4. Conclusions

The nearest distribution of the species is reported from the Palk Bay and Gulf of Mannar in the vicinity of Mandapam, India<sup>[9]</sup>. No previous occurrence is documented for this species from this area of the Bay of Bengal. The present study, therefore extends the known geographical distribution of *D. longimana*. In this area, the species will have been unknowingly commercially exploited along with other closely related species. This new taxonomic identification will be helpful for the proper management and conservation of this species in future.

#### 5. Acknowledgement

We greatly acknowledge the partial financial support from the Higher Education Quality Enhancement Project (HEQEP) of University Grants Commission of Bangladesh (UGC), as grant No. CP2216.

#### 6. References

1. Heemstra PC. Drepanidae. Sicklefishes. In KE Carpenter and V Niem (eds.) FAO Identification Guide for Fishery Purposes. The Western Central Pacific, 1997.
2. Bloch and Schenider. Syst. Ichth, 1801, 229.
3. Cuvier, Valenciennes. Hist. Nat. Poissons. Paris. 1829; 4:246
4. Gunther A. Catalogue of acanthopterygian fishes in the collection of British Museum. 1860; 2:62-63.
5. Bleeker P. Revision Des especes Insulindiennes De La Famile Des Chaetodontoides. Verh. Akad. Amsterdam. 1877; 17:21.
6. Day F. The Fishes of India. Barnard Quaritch, London. 1878; 2:116, 274-278.
7. Lele SH. Studies in Bombay fish. 1. Revision of the genus Drepane Cuv. & Val. J. Proc. Asiat. Soc. Bengal. 1924; 20:274-288.
8. Weber M, De Beaufort LF. The Fishes of the Indo-Australian Archipelago. 1935; 7:180-183. Leiden.
9. Murty VS. On some interesting and new records of marine fishes from India J. Mar. Biol Ass. India. 1968; 10(1):126-132.
10. Rahman AKA, Kabir SMH, Ahmad M, Ahmed ATA, Ahmed ZU, Begum ZNT, *et al.* (Eds.). Encyclopedia of Flora and Fauna of Bangladesh. Marine Fishes. Asiatic Society of Bangladesh, Dhaka. 2009; 24:485.
11. Matsunuma M, Motomura H, Matsuura K, Shazili NAM and Ambak MA (Eds.). Fishes of Terengganu – east coast of Malay Peninsula, Malaysia. National Museum of Nature and Science, Universiti Malaysia Terengganu and Kagoshima University Museum. 2011; ix:251.