INT. J. BIOL. BIOTECH., 17 (3): 463-468, 2020.

FIRST RECORD OF ARABIAN BARRACUDA *SPHYRAENA ARABIANSIS*, ABDUSSAMAD &RETHEESH, 2015 (FAMILY: SPHYRAENIDAE) FROM PAKISTAN

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ABSRACT

This document reports the first occurrence record of *Sphyraena arabiansis* (Abdussamad &Retheesh) known as Arabian Barracuda from Pakistani water. This specimen was caught from the east coast of Sindh in swatch area on 23.11.2019. This paper provides a brief with photographs of the sample with family background.

Key words: First record, *Sphyraena arabiansis*, Pakistani water.

INTRODUCTION

Species of the family Sphyraenidae are characterized by their elongate appearance,long conical heads, along with two dorsal fins. The jaws consist of well-developed canine teeth, except one species, Obtuse Barracuda (*Sphyraena obtusata*),no gill rakers found in any species.Taxonomic evolutionary history of this family has been discussed in detailed by leading taxonomist in the past by Bridge (1896), Starks (1899), Dollo (1909), Goodrich (1909),Regan (1912), Miranda (1915), Jordan and Hubbs (1919), Frost (1929),Gregory (1933), Hollister (1937), and Gosline (1962).Fossils of family sphyraenids are common since the lower Eocene period comprising the genera Sphyraenodus Agassiz, Protosphyraena Leidv, Prosphyraena Pauca and Sphyraena Klein (De Sylva, 1963).

Members of this family are found in all tropical and subtropical Seas (Williams, 1959; Blaber, 1982) and play an important role in marine eco-system as predator (De Sylva, 1963; 1973; Friedlander and de Martini, 2002).

Overall 29 Barracuda species inhabit in the world (Eschmeyr and Fog,2013) before discovering this new species, eight of which found in the Pakistani waters, (Psomadakis *et al*., 2015) which include Sharp fin Barracuda (*Sphyraena acutipinnis*), Great Barracuda (*S. barracuda*), Big eye Barracuda (*S. forster*i), Obtuse Barracuda (*S. obtusata*), Red Barracuda (*S.pinguis*), Sawtooth Barracuda ((*S. putnamae*), Blackfin Barracuda (*S. qenie*) and Pick handle barracuda (*S. jello*).This document describes a new species Arabian Barracuda (*S. arabiansis)* species from the coast of Pakistan which is the ninth species of the Family Sphyraenidae, described first time from the South West coast of India in 2015.

MATERIALS AND METHODS

Sample of *Sphyraena arabiansis* was obtained from Karachi fish harbor of Sindh coast on 26-11-2019. Related information regarding capturing of the fish was collected from relevant fisherman.Specimen was 104 cm long;mearstic count, morphometric measurement and useful photograph were taken and sent to concern taxonomist. After confirmation the specimen was fixed in 5% formalin and deposited in the museum of Marine Fisheries Department.Karachi.

Description

Body elongate fusiform semi cylindrical, snake like appearance conical snout, large mouth, jaws long, lower jaw larger than upper when closed **(Fig.1a)**. Teeth visible,fang like and conical, sharp and different size arrange in socket of both jaws **(Fig.2)**. Maxilla broad, spoon like curved ending before to corner of eye (**Fig.3a**). Large eyes. Pectoral fin underneath the level of eyes. Lateral line is well developed and arched before reaching to origin of first dorsal fin**(Fig.4a).**Body consists with small cycloid scale on whole body. Pelvic fin short. Prominent pointed tetra lobed caudal fin **(Fig.5a)**. Lateral line scale 120, thin interorbital area, white branchiostegal membrane. Lacking black spot on the body.

Color: Dark blackish grey above and silvery white below, over 17, V shape bars which has faded on the body, overlapping the lateral line. Membranes of first dorsal fin black. Second dorsal and anal fin black with white edge on first and last rays. Lobe of caudal fin white edge (**Fig.5**). Color of branchiostegal membrane white.

Fig.1a. *Sphyraena arabiansis.*

Fig.1b.*Sphyraena barracuda*.

Fig.2.Different size of teeth in Jaw(*Sphyraena arabiansis*).

Fig.3a.Maxilla location (*Sphyraena arabiansis*).

Fig.3b. Maxillalocation (*Sphyraena barracuda*).

Fig.4a. Lateral line (*Sphyraena arabiansis*).

Fig.4b. Lateral line (*Sphyraena) barracuda*).

Fig.5a.Caudal lobe (*Sphyraena arabiansis*).

Fig.5b.Caudal lobe (*Sphyraena barracuda*).

The present specimen was obtained on 26-11-2019.Meristic count and morphometric measurement has been compared with holotype of *Sphyraena arabiansis.*Previously, it was considered as *S. barracuda* on the basis of similarity of many character, but on the basis of small cycloid scale, more scale on lateral line and vertical axis over lateral line to first dorsal fin and lower part up to anal fin, broad maxilla ending well before the eye corner, thin orbital area and presence of one pair of central caudal lobe, lateral line arched before origin of first dorsal fin, lacking of black spot on body and white branchiostegal membrane which is different from *S.barracuda*. So, on the basis of these characters it is described as *S. arabiansis* being reported for the first time from Pakistan.

Meristic count of all fins, lateral line scale and branchiostegal ray has given in table 1 with comparison of holotype.

Table 1.Meristic count of present specimen and holotype of *Sphyraena arabiansis.*

Meristic character	Present specimen	Holotype
First dorsal spine	5	5
Second dorsal fins pine	1	1
Second dorsal ray	10	10
Pectoral fin spine	1	1
Pectoral rays	14	14
Pelvic spine	1	1
Pelvic rays	5	5
Anal spine	1	1
Anal rays	9	9
Vertical scale, first dorsal to lateral line	11	11
Vertical scale, anal to lateral line	13	13
Lateral line scale	120	120
Branchiostegal ray	7	7

Morphometric measurement of the specimen were recorded and compared with holotype which has been described in Table2.

Table 2. Morphometric measurement of present specimen and holotype.

Morphometric parameter	Present specimen	Holotype
Total length,TL (mm)	1040	1000
Fork length, FL (mm)	1010	950
Standard length, SL (mm)	910	850
Head length, HL (%SL)	25.5	27.53
Eye diameter (%SL)	2.9	3.06
Interorbital width (%SL)	7.2	5.36
Snout length (%SL)	11.91	13.29
Area from snout to first dorsal (%SL)	37	41.18
Area from snout to second dorsal (%SL)	62	69.41
Area from snout to pectoral (%SL)	25	28.24
Area from snout to pelvic (%SL)	31.5	35.41
Area from snout to annal (%SL)	63.2	70.59
Height at first dorsal origin (%SL)	13.5	13.05
Height at second dorsal (%SL)	11.0	12.66
First dorsal fin height (%SL)	8.0	7.75
Body width at origin of first dorsal fin (%SL)	7.0	9.06
Body width at origin of second dorsal fin (%SL)	8.7	7.98
Post orbital length (%SL)	11.5	11.53
Head height (%SL)	9	11.06
Upper jaw length (%SL)	10.5	12.00
First dorsal fin base length (%SL)	7.8	6.34
Second dorsal fin height (%SL)	9.2	10.59
Second dorsal fin base length (%SL)	9.3	8.99
Area from pelvic to anal (%SL)	31.2	36.47
Anal fin base length(%SL)	7.3	8.13
Pectoral length (%SL)	9.5	10.94
Second dorsal height (%SL)	4.55	5.06
Anal fin lobe height (%SL)	3.64	4.59
Pelvic fin length (%SL)	7.5	8.29
Caudal peduncle height (%SL)	6.0	6.06
Caudal peduncle width (%SL)	3.5	3.61
Caudal peduncle length (%SL)	19	19.53
Snout to anal length (%SL)	60	67.06

Distribution

Sphyraena arabiansis is reported from deeper water of South East West coast of India near Lakshadweep Island, nearby seamounts and now reported from the swatch area of Sind coast of Pakistan.

Discussion

Psomadakis*et al.* (2015) reported eight species of family Sphyraenidae from the coast of Pakistan because *S.arabiansis* was not discovered in Pakistan until 2015. This species was misidentified due to its resemblance with *Sphyraena barracuda* because of close morphological similarity with *Sphyraena barracuda* but a few characters are different which has been described in Table 3.

Conclusion

Daily study and collection at Karachi fish harbor, the largest fishing landing place of Pakistan, is continue for the last many year to observe the fish fauna such like species variety, seasonal variation, size range which are useful to know the fish ecology. *Sphyraena arabiansis* (Arabian Barracuda) is the first record from Pakistani waters.

According to concerned fisherman, this species was caught on 23rd November 2019 from the Swatch area of Sindh coast in water about 60 m depth from the bottom set gillnet.

Table 3.Comparison of *S. arabiansis with S.barracuda* (Abdussamad *et al.*, 2015).

Characters	*Sphyraena arabiansis*	*Sphyraena barracuda*
Lateral line scale	118- 122	80-87
Vertical scale	Above lateral line to first dorsa fin 11;below lateral line to anal fin 13	Above lateral line to first dorsa fin 10;below lateral line to anal fin 10
Maxilla	Broad spoon shape ending before eye margin vertically Fig.3a.	Maxilla with indentation reaching anterior margin of pupil Fig.3b.
Interorbital area	Narrow about 4.20 -5.13 in HL	Broad 0.246 in HL
Paired central lobe of caudal fin	More pointed Fig.5a.	Rounded and les pointed Fig.5b.
Otolith	Broad and arched with blunt posterior margin	Smooth and straight pointed posterior margin.
Branchiostegal membrane	White	Black
Bars	Usually over 20 bars (In this specimen its faded and over 17, V shape crossing lateral line visibleFig.1a)	17-19 not crossing lateral line. Fig1b.
Lateral line	Arched before first dorsal fin Fig.4a.	No arched Fig.4b.
Black spot	No spot	Spot in side of body near pelvic fin in juvenile stage

Acknowledgements

Authors of this document are thankful to Dr. K.K. Bineesh. Ph.D,Scientist – Zoological Survey of India, Andaman & Nicobar Regional Centre (ANRC), Haddo, Port Blair - Andaman & Nicobar Islands for confirmation of the species and guidance for this document and also thankful to technical adviser of WWF Pakistan Mr.Moazzam Khan for his regular support.

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(*Accepted for publication May 2020*)