



Mesopo. Environ. j. Special Issue C :10-15, 2017  
ISSN 2410-2598  
proceeding of 1<sup>st</sup> National conference of science and Art  
University of Babylon

Mesopotemia Environmental journal  
journal homepage:www.bumej.com



## The first record of eagle ray *Aetobatus flagellum* (Bloch & Schneider, 1801) from Shatt Al-Basra canal, south of Iraq

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### To cite this article:

Al-Faisal. A.J, Al-Shamary. A.Ch, Al-Muhyi. A.H.A, The first record of eagle ray *Aetobatus flagellum* (Bloch & Schneider, 1801) from Shatt Al-Basra canal, south of Iraq, *Mesop. environ. j.*, 2017, Special Issue C.;10-15

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### Abstract

Eagle ray *Aetobatus flagellum* (Bloch & Schneider, 1801) was recorded for the first time in Shatt Al-Basra canal, south of Iraq. The Sample was collected by gill net in May 2016. Disc width of specimen is 280 mm and disc length 185 mm. The specimen is characterized by the long snout, the broad disc, the dorsal fin between pelvic fins, spiracles on the dorsal side of the disc, no any spots on the its dorsal side of the disc, the deeply notched nasal curtain and the single row of teeth in each jaw.

**Keywords:** First record, *Aetobatus flagellum*, Shatt Al-Basra canal, Iraq.

### Introduction

The family Myliobatidae (eagle rays) consists of seven genera (*Aetobatus*, *Aetomylaeus*, *Manta*, *Mobula*, *Myliobatis*, *Pteromylaeus* and *Rhinoptera*) and 37 species around the world [1]

Eagle rays are a moderately large and diverse group of predominately inshore, semipelagic batoids with a circumglobal distribution in temperate and tropical continental and insular seas. These often common or abundant batoids range from the intertidal to the upper slope on soft and hard bottom down to 527 m. They occur around coral and rocky reefs, near kelp beds, and in estuaries, lagoons, and enclosed and open bays, they may occur in brackish water but are apparently unable to penetrate fresh water to any extent and are absent from rivers and lakes [2]. They feed on crabs, shrimps, bivalves, squids and small fish [3]. The genus *Aetobatus* Blainville, 1816 consists of at least four nominal species: *A. flagellum*, *A. laticeps* Duméril, 1865, *A. narinari* (Euphrasen, 1790) and *A. ocellatus* (Kuhl, 1823). The latter three species belong to the *A. narinari* complex of white spotted eagle rays which require an extensive taxonomic revision to determine how many species are involved. A further seven names are available for members of the *A. narinari* complex, but no historical names are available for the northwest Pacific species previously considered conspecific with *A. flagellum* [4].

*A. flagellum* distributed in the Indo-West Pacific, known from the Western Indian Ocean, from Kuwait in the Arabian Gulf to Pakistan and India and the Eastern Indian Ocean, from India and Sri Lanka to Indonesia and Malaysia [5]. Based on its apparent rarity, preference for coastal waters experiencing high and increasing levels of fishing effort, and inferred limiting life history characters, *A. flagellum* was assessed by the IUCN Red List of Threatened Species as 'Endangered' [6].

*A. narinari* known in the Iraqi marine waters and the Arabian Gulf according to the previous studies [7], [8], [9] while *A. flagellum* was collected from Kuwait by [5]. In this study we described *A. flagellum* as a new record in Shatt Al-Basra canal, south of Iraq.

## Material and Methods

The *A. flagellum* specimen was caught in May 2016 by gill net, from Shatt Al-Basra canal, south of Iraq (Figure, 1). Salinity of study area was 36.8 ‰ in tide time. A total of 22 morphometric characters were measured to the nearest mm by fish measuring board and digital vernier following [8] and [5]. The specimen were preserved at the Department of Marine Vertebrates, Marine Science Center, University of Basrah.

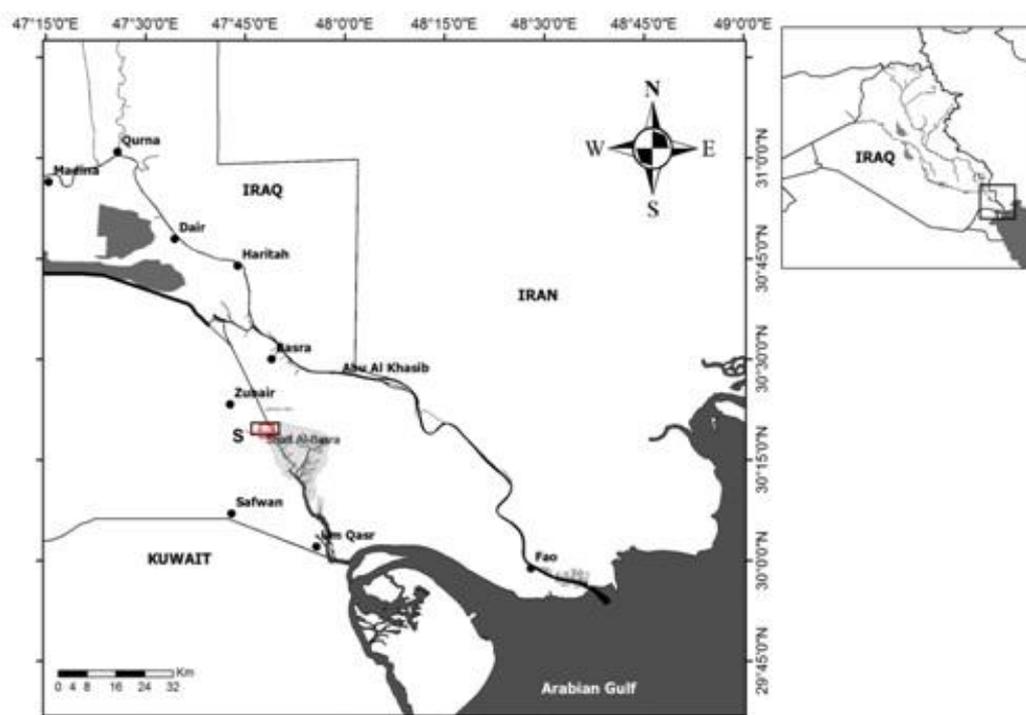


Figure (1). Sampling station in Shatt Al-Basra canal, south of Iraq.

## Results

Eagle ray *A. flagellum* (Figures 2-4) was first recorded from Shatt Al-Basra canal, south of Iraq. *A. flagellum* belong to the following classification section:

Class: Elasmobranchii  
Order: Myliobatiformes  
Family: Myliobatidae  
Genus: *Aetobatus* Blainville, 1816  
Species: *A. flagellum* (Bloch & Schneider, 1801)  
*Raja flagellum* Bloch & Schneider, 1801  
*Goniobatus flagellum* Agassiz, 1858  
*Aetobatus flagellum* McEachran and Seret, 1990

Table (1) show the morphometric characters of *A. flagellum* from Shatt Al-Basra canal, south of Iraq. This specimen is characterized by the broad disc (280 mm), 1.51 times disc length and relatively short 185 mm, greatest thickness above scapular region and posterior head, thickness 12.95% in disc width (DW). Snout is long, convex anterior of eyes, becoming deeply concave at origin of rostral lobe. Head pronounced, deep 9.96% DW, projecting well anterior to pectoral fin origins, ventral head length 21.54% DW. Interorbital width 10.89% DW. Spiracles on the dorsal side of the disc, and large 3.41% DW. The nasal notched is deep. Teeth in a single row in each jaw. The dorsal fin between pelvic fins, dorsal fin small 4.20% DW, pelvic fins moderately large 15.13% DW, slender, anterior margin slightly concave to almost straight, extending well beyond pectoral fin free tips, pectoral fins very large, wing-like. Gill openings small. Tail very long its length 2.02 times disc width, slender, whip-like. No any spots on the its dorsal side of the disc.

Table (1). Morphometric characters of *A. flagellum* from Shatt Al-Basra canal, south of Iraq.

Morphometric characters	(mm)	% in Disc width
Disc width	280.0	
Disc length	185.0	66.07
Disc thickness	36.27	12.95
Preorbital length	35.1	12.54
Preoral length	40.07	14.31
Tail length	565.0	201.79
Head length (ventral)	60.32	21.54
Head width at mid-eye	42.99	15.35
Head height at mid-eye	27.89	9.96
Interorbital width	30.48	10.89
Spiracle length (longest)	9.56	3.41
Spiracle width (narrowest)	3.38	1.21
Orbit diameter	11.16	3.99
Eye diameter	6.51	2.33
Width of first gill slit	4.12	1.47
Width of third gill slit	4.77	1.70
Width of fifth gill slit	4.03	1.44
Dorsal fin length	11.77	4.20
Dorsal fin height	17.90	6.39
Pelvic fin length	42.37	15.13
Pelvic fin base	15.53	5.55
Clasper outer length	7.88	2.81

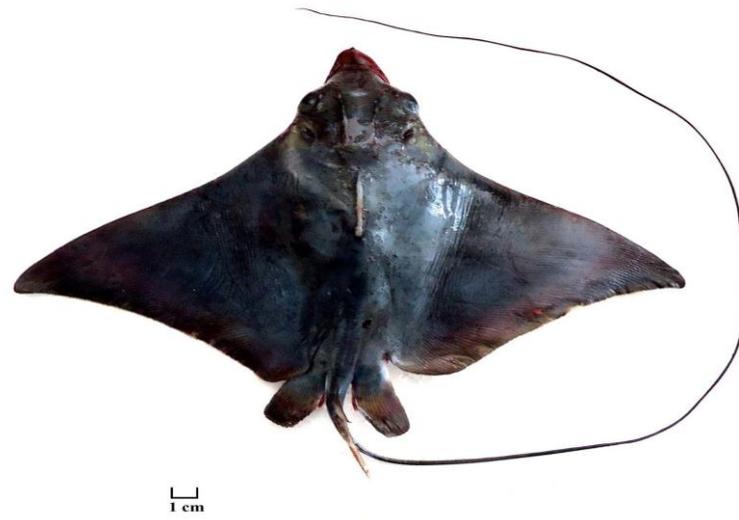


Figure (2). Dorsal view of *A. flagellum* from Shatt Al-Basra canal, south of Iraq.



Figure (3). Ventral view of *A. flagellum* from Shatt Al-Basra canal, south of Iraq.



Figure (4). Lateral view of *A. flagellum* from Shatt Al-Basra canal, south of Iraq.

## Discussion

The apparent strong association of *A. flagellum* with tropical and subtropical estuaries adds to the conservation concern of this species, as this habitat faces a multitude of threats [10], [5]. Kuwait was notable in that a number of elasmobranch species (one of them *A. flagellum*) were only recorded in the Arabian Gulf, which may be due to the proximity of the Shatt Al-Arab river [11]. The suitable environment of Shatt Al-Basra canal may lead to enter this species from Kuwait.

The plain dorsal colouration, size, rostral lobe and the position of the dorsal fin of *A. flagellum* readily distinguishes it from members of the *A. narinari* complex, which has prominent pale bluish to whitish spots on the dorsal surface, although members of this complex have a highly variable pattern of white spotting on the dorsal surface, they almost always have some white spots, sometimes they can be mostly plain and with only a small number of white spots on the posterior margin of the disc, the dorsal colouration of *A. flagellum* is dark brown, compared to them. *A. flagellum* is the smallest member of the genus in comparison members of the *A. narinari* complex are much larger. The rostral lobe is typically longer in *A. flagellum* than in *A. ocellatus* or *A. narinari*. The position of the dorsal fin appears to be a useful character in distinguishing *A. flagellum* from *A. ocellatus* [5].

*Aetobatus narutobiei* White, Furumitsu and Yamaguchi, 2013 had been recorded in eastern Vietnam, Hong Kong, China, Korea and southern Japan, it was previously considered to be conspecific with *A. flagellum*, but is clearly distinguishable based on the larger maximum size, rostral lobe of adult males narrowly parabolic and tapering evenly to tip, possibly greater number of tooth series, more pectoral fin rays, more pelvic fin rays, dorsal fin less raked back with posterior margin almost perpendicular to tail or slanting slightly posteroventrally from apex, its anterior margin length, slightly greater width across pelvic fin bases [4].

The new record of *A. flagellum* from Shatt Al-Basra canal indicating a important extension of its previously known distribution.

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