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On the occurrence of the short-nosed tripod fish *Triacanthus biaculeatus* (Bloch, 1786) in the North of Basrah, Southern Iraq

A.H.H. Ghazi[1]*, A.J. Al-Faisal[2] and M.A.A. Alfaris[3]
[1]Marine Science College, [2]Marine Science Center, [3]Agriculture College, Basrah University, Basrah-Iraq
**e-mail: abdulhussein73@yahoo.com*

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Abstract - In this article, we report on the occurrence of the short-nosed tripod fish *Triacanthus biaculeatus* (Bloch, 1786) in the North of Basrah, West of Al-Dair district which was not reported in this region before. Two specimens were obtained in November 2018 and identified as, *T biaculeatus*. They have a total length ranged from 69.0 to 137.0 mm. The first dorsal fin has 5 spines, the second spine is much less than half the length of the first one. The ventral surface of the pelvis is slightly tapered to words the posterior end.

Key Word: *Triacanthus biaculeatus*, new occurrence, Northern Basrah, Al-Dair village.

Introduction

There are completely different types of aquatic environments met at Basrah city, including the Al-Hammar marshes, Shatt Al-Arab, Shatt Al-Basrah canal and the marine habitats of the northwest part of the Arabian Gulf (Mhiasen *et al*., 2013). The direction of flow water is from North to South of Basrah Governorate towards the Arabian Gulf, so it is littered with the tidal waves of Arabian Gulf (Al-Lami, 2009). The fish of the family Triacanthidae reside as benthic in shallow water. They distribute in the tropical and semi tropical areas of the Western Atlantic and Indo-Pacific region, extending to the Arabian Gulf and the Gulf of Oman, the Bay of Bengal, Japan, China, Thailand, Republic of Indonesia and northern Australia (Tang, 1987). They are distinguished by their silvery and dusky color with or without darker blotches. Triacanthidae typically lives on the flat, sandy or muddy flat in coastal and estuarine waters, to a depth of 60m, they feed on the bottom living invertebrates (Matsuura, 2015).

The family members of the Triacanthidae are small fishes, up to 30cm long, include 11 genera and 23 species (Fricke *et al.,* 2018). There are two genera of Triacanthidae have been recorded in the Arabian Gulf, *Triacanthus* and *Pseudotriacanthus* (Carpenter *et al.,* 1997), the former is distinguished by the scale-covered the ventral surface of the pelvis virtually as wide anteriorly as posteriorly, not clearly tapered to a point. The length of the second dorsal fin spine is not longer than half the length of the 1st dorsal spine, whereas the latter genus is distinguished by having scale-covered ventral surface of pelvis greatly wider anteriorly than posteriorly, clearly tapered to a point, the length of the second dorsal fin spine is over half the length of the 1st dorsal spine (Fischer and Bianchi, 1984). *Triacanthus biaculeatus* is conjointly referred to as the short-nosed tripod fish which is a marine fish species, native in the Indian Ocean as well as the western ocean (Santini and

Tyler, 2003). It was recorded within the Iraqi marine waters and the Arabian Gulf (Khalaf, 1961; Mahdi, 1962; Al-Daham, 1982; Kuronuma and Abe, 1986; Carpenter *et al.,* 1997; Mohamed *et al*., 2001; Bishop, 2003 and Al-Faisal and Mutlak, 2018).

In the present article, we made notes on the occurrence of *T. biaculeatus* in the west of Al-Dair district, hence extending the distribution of the species to the north of Basrah, a region which was not included such species before.

Materials and Methods

From a field survey, two specimens of T. biaculeatus were collected during November 2018 from the North of Basrah, Western Al-Dair district, near Al-Hammar Marsh (30° 46' 9 N, 47° 31' 69' E), by using cast net of a mesh size of 1.5cm. The morphological characteristics including five meristic characters (dorsal fin spines, dorsal fin rays, anal fin rays, pectoral fin rays and pelvic fin rays) are counted using a dissecting microscope. Nineteen morphometric characters were measured to the nearest mm by using a digital caliper. All measurements were doing according to Carpenter *et al.* (1997). The specimens were deposited in the department of Marine Vertebrates, Marine Science Centre, University of Basrah, Iraq.

Results

Classification:

Class Actinopterygii
Order Tetraodontiformes
Family Triacanthidae
Genus *Triacanthus*
Species *T. biaculeatus*

Morphological Characteristics:

In this study, we reported on the first occurrence of *Triacanthus biaculeatus* in the North of Basrah, Western Al-Dair district during November 2018. The morphometric and meristic characteristics of two specimens of *T. biaculeatus* are shown in Table (1) and Figure (1). The total length ranged from 69.0 to 137.0 mm and the standard length 53 to 108 mm. All body measurements were based on percentage of standard length; the body depth 39.58-46.81 mm, body width 15.49-15.54 mm. The head length, head depth and head width were 29.06 to 31.74 mm, 30.64 to 35.06 mm and 12.38 to 12.58 mm, respectively. The eye diameter was 7.81 to 10.17 mm. The snout is moderately acute with a length 14.03 to 15.92 %of SL. The upper profile tends to be straight to concave, the post orbital profile of the head to the origin of the spinous dorsal fin is either convex, straight or convex before the first dorsal spine and straight or concave over the eye. The inter orbital distance was 6.94 to 7.68 mm, pre-dorsal length was 29.32 to 33.53 mm, post dorsal length was 20.11 to 21.02 mm, length of the 1st dorsal fin was 12.58 to 16.64 mm, length of the 2nd dorsal fin was 30.04 to 31.42 mm, anal fin length was 21.18 to 22.25 mm, pectoral fin length was 14.26 to 14.67 mm, pelvic fin length was 22.66 mm, caudal peduncle length was 19.81 to 21.65 mm and caudal peduncle depth was 4.43 to 4.56 mm. Meristic characters involving, the first dorsal fin has five spines, the second spine is much less than half the length of the first spine, second dorsal fin rays ranged from 24 to 25. Anal fin rays were 20 and pectoral fin rays were 14. The ventral surface of the pelvis is slightly tapered to words the posterior end.

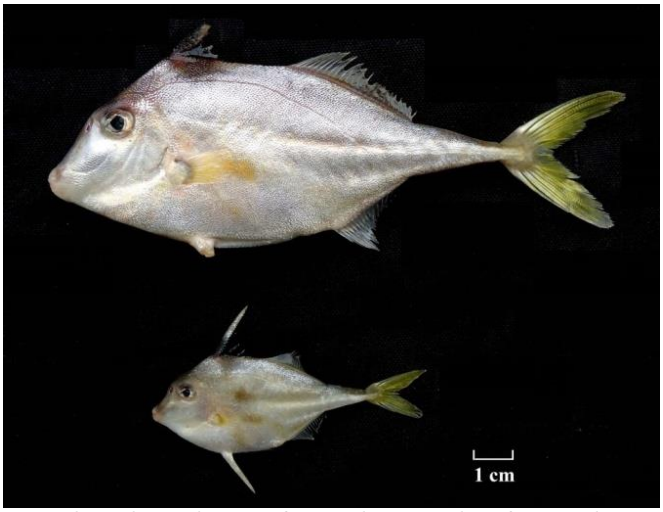

Figure 1. *Triacanthus biaculeatus* from the North of Basrah, Western Al-Dair district during 2018.

Table 1. Morphometric and meristic characteristics of *Triacanthus biaculeatus* from the North of Basrah, Western Al-Dair district during 2018.

Morphometric characters	**Range**	**Mean**	**SD**
Total length (mm)	69 - 137	103	34.0
Standard length [SL] (mm)	53 - 108	80.5	27.50
Body depth % in SL	39.58 – 46.81	43.20	3.61
Body width % in SL	15.49 – 15.54	15.51	0.02
Head length % in SL	29.06 – 31.74	30.40	1.34
Head depth % in SL	30.64 – 35.06	32.85	2.21
Head width % in SL	12.38 – 12.58	12.48	0.10
Snout length % in SL	14.03 – 15.92	14.98	0.95
Eye diameter % in SL	7.81 – 10.17	8.99	1.18
Interorbital distance % in SL	6.94 – 7.68	7.31	0.37
Predorsal length % in SL	29.32 – 33.53	31.43	2.10
Postdorsal length % in SL	20.11 – 21.02	20.57	0.45
fin length % in SL1stDorsal	12.58 – 16.64	14.61	2.03
fin length % in SL2ndDorsal	30.04 – 31.42	30.73	0.69
Anal fin length % in SL	21.18 – 22.25	21.71	0.53
Pectoral fin length % in SL	14.26 – 14.67	14.47	0.20
Pelvic fin length % in SL	22.66	22.66	0.0
Caudal peduncle length % in SL	19.81 – 21.65	20.73	0.92
Caudal peduncle depth % in SL	4.43 – 4.56	4.50	0.07
Meristic characters			
1stDorsal fin spines	5		
2ndDorsal fin rays	24 -25		
Anal fin rays	20		
Pectoral fin rays	14		
Pelvic fin rays	1		

Discussion

The water of the Marshes and Shatt Al Arab river undergoes dramatic changes in water quality associated with the decline in the rates of discharge from the Tigris and Euphrates rivers (Al-Mahmood *et al*., 2015). The decrease of fresh water inflows into the Shatt Al-Arab river allowed the intrusion of a salt water front from the Arabian Gulf to mouth of the Shatt Al-Arab river (Abdullah *et al.,* 2016). The results indicate that the physical properties, particularly salinity had changed dramatically in the Shatt Al-Arab river which caused serious catastrophic changes in the distribution, abundance and species composition of Shatt Al-Arab river flora and fauna.

T. biaculeatus is found in coastal and estuarine waters around the world attaining a total length of 30 cm and a standard length of 25 cm (Hutchins, 1984), whereas the specimens recorded during the present study had a size range of 6.9 to 13.7 cm. Previously, this species recorded in Khor Abdullah, Northwest the Arabian Gulf, Iraq (Mohamed and Razak, 2011) and in the lower reaches of Shatt Al-Arab river (Mohamed and Abood, 2017). The salinity was the foremost reason resulted in intrusion of the present species into the inland waters.

It is well known that *T. biaculeatus* has a wide ecological tolerance for salinity, ranging from low salinity of brackish waters to totally marine waters (Matsuura, 2015).

There are about 350 tetraodontiform fishes species, most of them are found commonly in warm and temperate marine waters worldwide, families of Triacanthodidae reside shallow water, continental sand and dirt flats (Santini and Tyler, 2003). Triacanthidae are also found in the continental shelves of the Indo-West Pacific, commonly, from slightly ocean surface to a depth of sixty meters (Tyler, 1968).

Species of this family differ from the other families of the order Tetraodontiformes in having moderately elongate and very well compressed body; moderately thick skin provided with various scales not simply discernible to the naked eye, with every scale provided with upright spinules, 2 separated dorsal fins, each with six spines (usually with 5 visible spines and the sixth one is rudimentary), and also the first is twice the length of the second, and there are 20-26 soft rays in the second dorsal fin (Carpenter and Niem, 2001). The pelvic fin is provided with a large spine but without visible soft rays; mouth is tiny and frequently terminal; teeth in jaws with an outer series of ten significant incisors and an inner series of many molars (Matsuura, 2001).

In conclusion, the continual changes in fresh water levels from Tigris and Euphrates rivers gave the chance of the progression of the marine waters toward the North of Basrah city, so that, marine fishes and invertebrate species would be expected to invade the inland waters of the region.

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ظهور الأسماك ذات الأنف القصير *Triacanthus biaculeatus* (Bloch, 1786) في شمال محافظة البصرة، جنوبي العراق

عبدالحسين حاتم غازي[1] و عباس جاسم الفيصل[2] و مرتضى عبد العظيم عبد النبي الفارس[3]

[1]كلية علوم البحار، [2]مركز علوم البحار، [3]كلية الزراعة، جامعة البصرة، البصرة-العراق

المستخلص - سجل في البحث الظهور الأول للأسماك قصيرة الأنف *Triacanthus biaculeatus* Bloch, 1786 في شمال محافظة البصرة، غرب ناحية الدير. وتم وصف وتوضيح نموذجين لهذه الأسماك، اذ بلغ معدل الطول الكلي 69.0 – 137.0 ملم. احتوت الزعنفة الظهرية الأولى على 5 أشواك، وتميزت الشوكة الثانية بكونها اقصر من نصف طول الشوكة الأولى، السطح البطني للحوض مستدق قليلاً في الطرف الخلفي.