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Arabian toadfish *Colletteichthys occidentalis* Greenfield, 2012 from Northern Arabian Gulf off Iraq

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Abstract - The Confirmation of the presence of Arabian toadfish *Colletteichthys occidentalis* Greenfield, 2012 , is reported from northern Arabian Gulf of Iraq. The sample was collected using a trawl net in May 2024. C. occidentalis is characterized by a single tentacle located above the posterior portion of the eye, dorsal fin rays 19, anal fin rays 15.

تواجد أسماك العلجوم العربي *Colletteichthys occidentalis* Greenfield, 2012 في شمال الخليج العربي من العراق

عباس جاسم الفيصل و فلاح معروف مطلك
مركز علوم البحار، جامعة البصرة ، البصرة - العراق

المستخلص - تم تأكيد وجود أسماك العلجوم العربي *Colletteichthys occidentalis* Greenfield, 2012 في شمال الخليج العربي قبالة العراق. جمعت النماذج باستخدام شباك الجر في ايار 2024. تتميز سمكة العلجوم العربي بمجس واحد يقع فوق الجزء الخلفي من العين، وعدد أشعة الزعنفة الظهرية 19، وأشعة الزعنفة الشرجية 15.

الكلمات المفتاحية: عائلة Batrachoididae، *Colletteichthys occidentalis* ، الخليج العربي، العراق.

Introduction

The family Batrachoididae comprises of three subfamilies (Batrachoidinae, Porichthyinae, and Thalassophryninae) with 23 genera and 83 species distributed in the warmer waters of coastal regions of the Atlantic, Indian and Pacific oceans (Froese and Pauly, 2024). Toadfishes frequently conceal themselves in sand, mud, beneath rocks, coral heads, and debris, taking shelter in crevices and burrows; they operate as ambush predators, preying on crabs, shrimps, mollusks, sea urchins, and fish (Roja, 2011). Batrachoididae is characterized by head broad and flattened; eyes on top of head; mouth wide; gill openings restricted to sides; two dorsal fins, the first consisting of two or three strong, sharp spines; pelvic fins jugular, inserted well in advance of pectoral fins; one to several lateral lines on head and body (Greenfield *et al*., 2008).

The genus *Colletteichthys* includes three species: *C. dussumieri* (Valenciennes, 1837), *C. occidentalis* and *C. flavipinnis* Greenfield, Bineesh and Akhilesh, 2012. It was previously

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believed that one species *C. dussumieri*, spread from Arabian Gulf to India and Sri Lanka (Randall, 1995; Greenfield *et al.*, 2008), until Greenfield (2012) stated that the toadfish found in the Arabian Peninsula and Northern Arabian Sea differs from *C. dussumieri* in some morphological characteristics, thus *C. occidentalis* is considered the second species in the genus *Colletteichthys* which described from the area. The aim of present study is to confirm the presence of *C. occidentalis* in the northern Arabian Gulf off Iraq.

Materials and Methods

Four specimens of toadfish were collected in May 2024 from the Iraqi marine waters, north-western Arabian Gulf, 29° 46' 50" N 48° 39' 74" E, using a trawl net. Morphometric and meristic details were recorded following Hubbs and Lagler (1958). Meristic characters were counted employing a dissection microscope, and 14 morphometric characters were measured to the nearest mm by using a digital caliper and fish measuring board. All morphometric measurements were percentages of standard length. The specimens were deposited in the Marine Science Centre, University of Basrah, Iraq.

Results

The specimens of toadfish obtained in the present study belong to the species *Colletteichthys occidentalis* (Fig. 1). The characterised features of this species are in agreement with Greenfield (2012). Arabian toadfish *C. occidentalis* with a single tentacle located above the posterior portion of the eye, dorsal fin rays 19, anal fin rays 15.

Classification:
Class: Actinopterygii
Order: Batrachoidiformes
Family: Batrachoididae
Genus: *Colletteichthys*
Species: *C. occidentalis* Greenfield, 2012

Description:

The total length of the specimens ranged from 138 - 235 mm, standard length is 115 - 193 mm. Body anteriorly cylindrical (body depth 21.12 - 24.01% in standard length) and posteriorly compressed (body width 22.29 - 29.42%). Head moderately depressed (head length 35.46 - 40.39%, head depth 19.83 - 21.75%), and of moderate width 25.33 - 31.79%. Eye diameter is 6.52 - 9.18%. A single tentacle above the eye (Fig. 2). Interorbital distance is 5.17 - 7.25%. Upper jaw length 20.24 - 24.61% reaches below the hind border of the eye. Maxilla width 3.37 - 4.68%. No scales. Three lateral lines. Dorsal fin spines 3, dorsal fin rays 19, anal fin rays 15, pectoral fin rays 21 -22 (Table. 1). Color of head and body is light tan, overlaid with dark brown, black and white patterns, ventral surface of body white.

Table 1. Morphometric and meristic characters of *C. occidentalis* from the Iraqi marine waters.

Morphometric characters	**range**	**mean**
Total length (mm)	138 - 235	185.75
Standard length [SL] (mm)	115 - 193	152.75
Body depth % in SL	21.12 - 24.01	22.58
Body width % in SL	22.29 - 29.42	24.84
Head length % in SL	35.46 - 40.39	37.64
Head depth % in SL	19.83 - 21.75	20.70
Head width % in SL	25.33 - 31.79	28.75
Snout length % in SL	10.07 - 11.31	10.78
Upper jaw length % in SL	20.24 - 24.61	21.87
Lower jaw length % in SL	18.35 - 22.36	20.27
Maxilla width % in SL	3.37 - 4.68	4.05
Eye diameter % in SL	6.52 - 9.18	7.99
Interorbital distance % in SL	5.17 - 7.25	6.47
Predorsal length % in SL	40.39 - 44.29	42.19
Postdorsal length % in SL	6.49 - 8.21	7.59
Dorsal fin length % in SL	45.04 - 60.29	55.41
Anal fin length % in SL	22.64 - 25.67	24.18
Pectoral fin length % in SL	22.05 - 28.15	25.48
Pelvic fin length % in SL	18.83 - 24.04	21.07
Caudal peduncle length % in SL	8.27 - 10.61	9.14
Caudal peduncle depth % in SL	7.59 - 9.63	8.71
Meristic characters		
Dorsal fin spines	3	
Dorsal fin rays	19	
Anal fin rays	15	
Pectoral fin rays	21 - 22	

Figure 1. *Colletteichthys occidentalis* from the Iraqi marine waters.

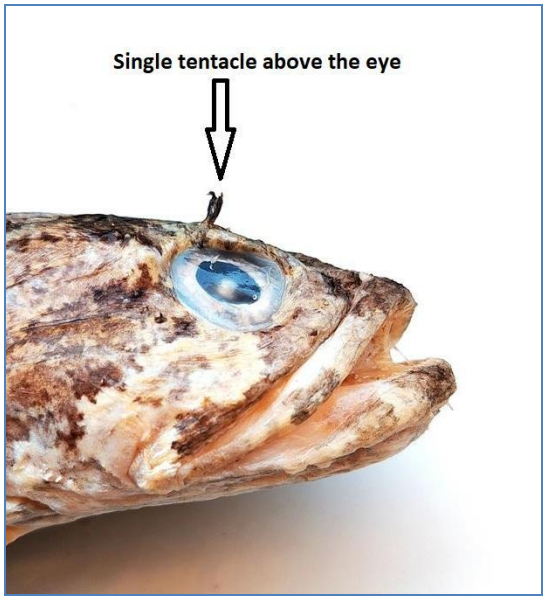

Figure 2. Eye of *C. occidentalis*.

Discussion

The previous studies showed the presence of one species of toadfish in Iraqi marine waters, but there was confusion in identifying the species, so it was recorded under different names: *Batrachus grunniens*, *Allenbatrachus grunniens*, *Austrobatrachus dussumieri* and *Colletteichthys dussumieri* (Mahdi, 1971; Mohamed *et al.*, 2001; Mohamed and Abood, 2017; Al-Faisal and Mutlak, 2018; Jawad, 2018). The genus *Colletteichthys* is easily distinguished from *Allenbatrachus* by the presence of a prominent foramen in the upper portion of the pectoral axil. *Colletteichthys* is characterized by body completely naked, axillary foramen or pocket at top of pectoral-fin axil, supraorbital tentacles present and other on head, anterior nasal tentacle not elongate, maxillary flaps absent, lower gill opening well below lower pectoral-fin base, subopercle with two spines, upper one large and lower one smaller, soft dorsal-fin rays 19-24 (Greenfield *et al.*, 2008).

The Arabian toadfish *C. occidentalis* can be distinguished from the Flat toadfish *C. dussumieri* by the tentacles located above the posterior portion of the eye (single tentacle vs. two or more in *C. dussumieri*), and the count of dorsal fin rays (19 vs. 20 in *C. dussumieri*) and anal fin rays (15 vs. 16 in *C. dussumieri*) (Greenfield, 2012).

The importance of the present study comes from confirming the presence of *C. occidentalis* in the northern Arabian Gulf's fish fauna. The nearest locality where this species was reported from Jana Island, Saudia Arabia, the history of the presence of *C. occidentalis* in the Arabian Gulf indicates its recorded in Bahrain, Saudi Arabia and Qatar (Greenfield, 2012). The natural range

extension of fish species as a result of changes in the marine factors (Al-Faisal and Mutlak, 2023), hence field monitoring of the local environment provides more significant discoveries.

Conclusions

The collection of specimens of *C. occidentalis* from the Iraqi marine waters represents the new northernmost record of this species in the Indian Ocean.

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