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THE COMMON DOLPHINFISH *CORYPHAENA HIPPURUS* LINNAEUS, 1758 (PERCIFORMES, CORYPHAENIDAE) IN THE MARINE WATERS OF IRAQ

SUMMARY

First record of the common dolphinfish *Coryphaena hippurus* from the Iraqi marine waters is reported in the present study. One adult specimen (762 mm total length) was caught from the waters surrounding the Khor Abdullah within the Iraqi marine territory. It is a new ichthyofaunal record for the area.

INTRODUCTION

It is possible to consider the study of HECKEL (1843) is the starting point for the modern fish taxonomy history in Iraq. However, the fish fauna of this part of the world has not very well investigated. JAWAD (2012) reviewed the history of the fish fauna of Iraq and noted that there were a patches of publications appeared in the second half of the last century. Further taxonomic investigations were published during the 2nd decade of the current century (ALI, 2013; HUSSAIN and JAWAD, 2014; JAWAD and HUSSAIN, 2014; JAWAD *et al.*, 2014; JAWAD and AL-BADRI, 2015; AL-FAISAL *et al.*, 2018; ALI and IWATSUKI, 2018), which indicate a promising attempt whereas in progress to cover the non-stop changes in the fish fauna of Iraq in general and the marine fish fauna in particular. Such changes might be due to several factors including globalization in the transport, weather changes and human impacts. However the fish fauna of this part of the world still remains not fully investigated and there are large amount of taxonomic works waiting to be done (JAWAD, 2012).

The Common dolphinfish is a marine species living in the pelagic-neritic region (RIEDE, 2004) and found at depth range from surface of the sea down to 85 m (UYENO *et al.*, 1983), but usually seen at 5 - 10 m (GASPARINI and FLOETER, 2001). This species is distributed in localities of the Atlantic, Indian and Pacific Oceans as it is recognised as highly migratory (FAO, 1994). Individuals of *Coryphaena hippurus* reach a maximum total length of 2100 mm (COLLETTE, 1999).

This study reports on the presence of the common dolphinfish *C. hippurus* from the Iraqi marine waters as a results of recent taxonomic work in the area.

MATERIAL AND METHODS

One specimens of *C. hippurus* (Fig. 1) was collected from the Iraqi marine waters at the north-western corner of the Arabian-Persian Gulf (29° 47' N 48° 43' E) on August 2018 (Fig. 2). The specimen was among the catch of a small trawler operating in the marine waters of Iraq. Morphometric were determined using dial callipers and meristic details were recorded following the method described by COLLETTE (1999) (Table 1). The specimens are deposited in the fish collection of the Marine Science Centre, University of Basrah, Iraq (MSCB3245).



Fig. 1 - *Coryphaena hippurus*, 762 mm TL collected from the marine waters of Iraq.

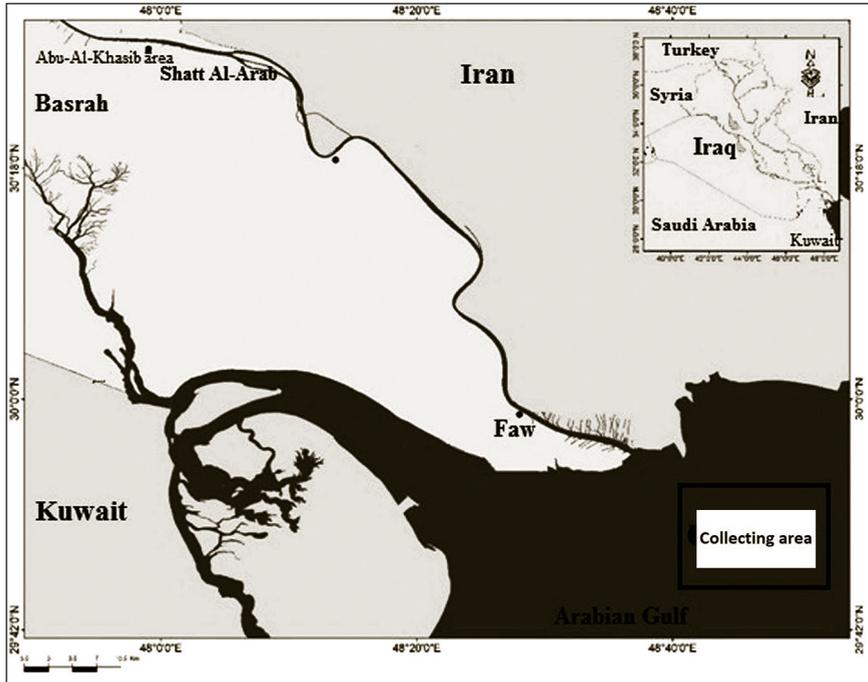


Fig. 2 - Map showing collecting locality of *Coryphaena hippurus*.

RESULTS

The presence of bony crest at skull, assigned the specimen to the male sex. *Coryphaena* fishes are characterised in having the following characters (GIBBS and COLLETTE, 1959; 1978; POTTHOFF, 1980; PALKO *et al.*, 1982):

Body elongate and compressed, with small cycloid scales. Mouth large with groups of many thin teeth. This species has curved upward lateral line reaching above the pectoral fin, but in other places it is straight. Very long dorsal fin starting from the nape and encompassing nearly the whole dorsal side of the fish to the tail. Also, the anal fin is very long, starting behind the anus and resuming nearly to the tail. The two pelvic fins are located ventral to the pectoral fins and found in a groove on the body. Deeply forked caudal fin. The males reaching maturity produce a conspicuous bony crest on their front head. In life, the colour of this species is golden shading on the ventral side of the body, metallic blue and green on the dorsal side, with white and yellow on abdomen, and numerous small black spots on the head and body.

Tab. 1. Morphometric and meristic characteristics of *Coryphaena hippurus* from the Iraqi marine waters.

% in SL		Morphometric characters
	762 mm	Total length
	665 mm	Fork length
	614 mm	Standard length [SL]
21.99	135 mm	Body depth
8.80	54.04 mm	Body width
21.78	133.74 mm	Head length
7.82	48 mm	Snout length
3.42	21 mm	Eye diameter
14.98	92 mm	Predorsal length
9.12	56 mm	Postdorsal length
78.50	482 mm	Dorsal fin length
40.72	250 mm	Anal fin length
15.80	97 mm	Pectoral fin length
18.08	111 mm	Pelvic fin length
8.96	55 mm	Caudal peduncle length
5.70	35 mm	Caudal peduncle depth
		Meristic characters
	58	Dorsal fin rays
	25	Anal fin rays
	20	Pectoral fin rays
	6	Pelvic fin rays
	9	Gill rakers

DISCUSSION AND CONCLUSIONS

The length of the specimens of *C. hippurus* examined in this study is shorter (762 mm TL) than the common length reported for this species (1000 mm TL) by COLLETTE (1984). The specimen collected is larger than those specimens uploaded at Fishbase by Hamid Badar Osmany from Pakistan (350 – 740

mm TL) and collected from the Arabian Sea coasts of Pakistan. The size of the specimen obtained in this study is just below the common length given for this species by COLLETTE (1984).

The only other species of the genus *Coryphaena*, *C. equiselis* is not present in the Arabian-Persian Gulf area (RANDALL, 1995), but since it has been reported to have close similarity with *C. hippurus*, it is worth given the main morphological differences between those two species according to PALKO *et al.* (1982). The two species differ in their body colouration, with *C. hippurus* having yellowish lower body part vs brilliant metallic blue-green on the upper side of the body in *C. equiselis*. *C. hippurus* has 58-66 dorsal fin rays (58 rays in the specimen of the present study) vs 52-59 in *C. equiselis*; 25-31 anal fin rays (25 this study) v 23-29 anal fin rays in *C. equiselis*; the anal fin is concave and the pectoral fin is more than half the length of the head in vs the anal fin is convex and the pectoral fin is about half the length of the head in *C. equiselis*.

The present record of *C. hippurus* is the outcome of widespread ichthyological collections in the marine waters of Iraq that happened recently. This species has never been reported from the marine waters of Iraq, but it is reported from the Arabian-Persian Gulf area (CARPENTER *et al.*, 1997). Nonexistence of preceding record of this species from Iraqi waters could be due to two possibilities: (i) absence of sampling in the area stopping the steady discovery of these species that had been unnoticed in the past.

It is premature too early to include *C. hippurus* within the marine fish fauna of Iraq as only one accidental collection in the new area. Also it is possible, for migratory species that individuals stay far from their native populations. Thus, the present records can be considered an important starting point for the understanding of zoogeographical invasions of ichthyofauna in the area.

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