

## MARSH BULLETIN

## Updating checklist of fishes of Khor Al-Zubair lagoon North West of Arabian Gulf

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### Abstract:

The present study described fish assemblages in Khor Al-Zubair lagoon North West Arabian Gulf using various fish nets, A total of 40 species belong to 29 families and 11 orders were recorded. It was found that order of Perciform dominated the ichthyofauna of Khor Al-Zubair lagoon, which represented by 14 families and 21 species. The percentage of very rare species of total number was 12.5%, including five species: *Chiloscyllium arabicum*, *Mastacembelus mastacembelus*, *Otolithes ruber*, *Pampus argentatus* and *Strongylura strongylura*, in this study, we used the similarity analysis between previous studies (Ali, 1985 (study 1); Hussein and Namma, 1980 (study 2) and current study (study 4), and the high similarity (58.62%) was found between study 1 and study 2.

**Key words:** Khor Al-Zubair lagoon, Fish assemblages, Ichthyofauna

### Introduction:

Marine fish which live in deeper water and enter shallower intertidal and sub tidal zone, in particular during the growing season play an important role as predators in coastal areas (Naser, 2000). So, in order to reduce the damage of the flood, a diversion channel Shatt Al-Basrah was constructed to by-pass part of the flood directly to the Arabian Gulf through Khor Al-Zubair. (Hussain, et al., 1995).

Previous fish surveys were conducted in Khor Al-Zubair.

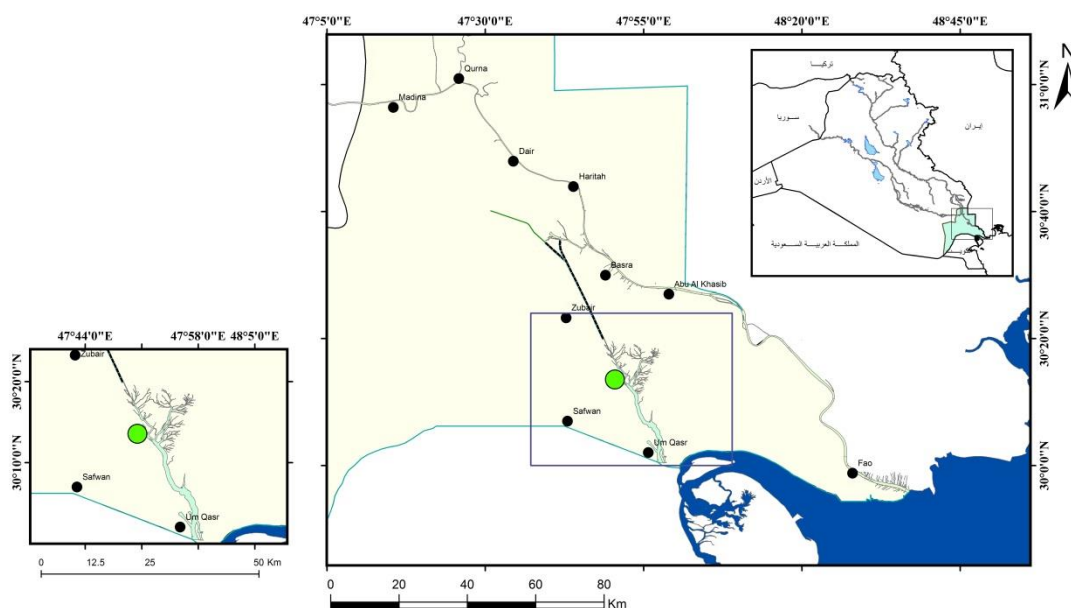
Hussain and Naama (1989). Recorded 73 species belong to 20 families; Ali and Hussain (1990) recorded 34 species belong to 26 families. Hussain *et al.*, (1994) recorded 32, 37 fish species in two stations Ali (1985), in addition Younis & Al-Shamary (2015) recorded 38 species belonging to 28 families. General studies reviewed some biological aspects such as age, growth, on food for some fish species: Jabir *et al.*, (1980) (*Thryssa mystax* and *T. hamiltonii*), Hussain and Naama (1989) (*Arius thalassinus*), Yousif, and Naama, (1992) (*Johnieops sina* and *Johninus belangerii*). Hussain *et al.*, (1995)

(*Nematolosa nasus*). Hussain *et al.*, (1999) (*Bathygobius fuscus*) and Hussain *et al.*, (2001) (*Acanthopagrus latus*). The aim of this study is to put an updated fish check list of Khore Al-Zubair lagoon as an updated reference.

### Study area:

The Khor Al- Zubair lagoon is located about 12 nautical miles

North of Umm Qasr and 15 nautical miles South of Basrah. It is situated between Lat 30° 11' N and Long 47° 54' E. Khor Al-Zubair lagoon area (figure,1) is a Northwest extension part of the Arabian Gulf towards the lower area of (Iraq) Mesopotamia. It represents the southwest of Basrah city and Shatt Al-Basrah canal. The length of Khor Al-Zubair lagoon is about 32 km with a width ranging between 100-800 m and depth ranging between 10-15m (Hussain and Naama,1989).



**Fig:1. Map of Khor Al-Zubair lagoon.**

### Materials and Methods

The present study carried out from August 2012 to July 2013 in Khor Al-Zubair lagoon, Location: 30° 13' 32.97'' N 47°50'28.21'' E using two

seine nets of total length of 100 m and 1.5 m depth with 20 and 25mm mesh size and gill net of the total length 20m with 1.5 cm mesh size. Fish specimens were identified according to Fischer and Bianchi (1984); Kuronuma and Abe (1986);

Mutlak and Al-Faisal;(2009). Occurrence of species was calculated according to Hussain and Naama (1989).As shown below:

1-Common species (>50)

2-Rare species (6-50)

3- Very rare species (<6).

We have made comparison between previous studies, Ali (1985); Hussain *et. al* (1988) and Hussain &Naama,(1989) and current study.

### **Results and Discussion**

Table (1) shows the list of fishes collected from Khor Al-Zubair lagoon northwest of the Arabian Gulf. A total of 40 species belong to 29 families and 11 orders were recorded. There are 22 family lies distributed to a single species for each family, three families distributed to two species and four families to three species. The order Perciform dominated the ichthyofauna of Khor Al-Zubair lagoon, which represented by 14 families and 21 species. It is clear that the Perciform order was the more dominant the ichthyofauna in the Northwest of the Arabian Gulf (Khalaf, 1961; Mahdi, and Georg, 1969; Al-Daham, 1979; Kuronuma, and Abe, 1986; Bishop, 2003). The ichthyofauna of Khor Al-Zubair is more closely related to that found in North part of the Arabian Gulf (Hussain *et al.*, 1988), Causing the domination Perciform in the Khor Al-Zubair lagoon, representing by

14 families. This order is considered the largest within the teleost fish (Nelson, 2006). Hussain and Naama (1989) indicated that the species recorded in Khor Al-Zubair were derived from the Arabian Gulf and subsequently from the Indian Ocean, besides demonstrating that the Indian Ocean species cover the entire gulf and reaching even its most northern range, The results indicate the four families Including three species, the same results were obtained by Hussain and Naama(1989),who found that these families contain many species.

The percentage of very rare species (1-5 specimens) of total number was 12.5%, it consisted of five species: *Chiloscyllium arabicum*, *Mastacembelus mastacembelus*, *Otolithes ruber*, *Pampus argentetus* and *Strongylura strongylura*.

Rare species(6-50 specimens) that included 22 species with 55% of total number of individuals: *Alepes djedaba*, *Argyrops spinifer*, *Netuma bilineata*, *Atule mate*, *Brachirus orientalius*, *Chirocentrus dorab*, *Eluotheronmema tetradactylum*, *Epinephelus coioides*, *Pateobatis bleekeri*, *Ilisha compressa*, *Nematlosa nasus*, *Phyricherhmphus georgii*, *Platycephalus indicus*, *Polydactylus sextarius*, *Pseudosynanceia melanostigma*, *Sardinella albella*, *Sparidentex hasta*, *Thryssa hamiltoni*, *Coptodon*

*zillii*, *Trichiurus lepturus*, *Upeneus doriae* and *Pseudorhombus arsius*.

The Common species(>50 specimens) included 13 species with 32.5%: *Acanthopagrus arabicus*, *Bathygobius fuscus*, *Cynoglossus*

*arel*, *Johnuis belangerii*, *Johnuis dussumieri*, *Photopectoralis bindus*, *Liza klunzingeri*, *Planiliza subviridis*, *Scatophagus argus*, *Scomberoides commersonnianus*, *Sillago sihama*, *Tenualosa ilisha* and *Thryssa whiteheadi*. Table(2)

**Table (1) list of fishes collected from Khor Al-Zubair lagoon Northwest of the Arabian Gulf.**

Order	Family	Species
Orectolobiformes	Hemiscylliidae	<i>Chiloscyllium arabicum</i> Gubanov, 1980
Myliobatiformes	Dasyatidae	<i>Pateobatis bleekeri</i> (Blyth, 1860)
Beloniformes	Belonidae	<i>Strongylura strongylura</i> (van Hasselt, 1823)
	Hemiramphidae	<i>Rhyricherhmphus georgii</i> (Valenciennes, 1847)
Clupeiformes	Chirocentridae	<i>Chirocentrus dorab</i> (Forsskal, 1775)
	Clupeidae	<i>Nematalosa nasus</i> (Bloch, 1795)
		<i>Sardinella albella</i> (Valenciennes, 1847)
		<i>Tenualosa ilisha</i> (Hamilton-Buchanan, 1822)
	Engraulidae	<i>Thryssa hamiltoni</i> (Gray, 1853)
		<i>Thryssa whiteheadi</i> Wongratana, 1983
	Pristigasteridae	<i>Ilisha compressa</i> Randall, 1994
Mugiliformes	Mugilidae	<i>Liza klunzingeri</i> (Day, 1888)
		<i>Planiliza subviridis</i> (Valenciennes, 1836)
Perciformes	Carangidae	<i>Alepes djedaba</i> (Forsskål, 1775)

		<i>Atule mate</i> (Cuvier, 1833)
		<i>Scomberoides commersonianus</i> Lacepède, 1801
	Cichlidae	<i>Coptodon zillii</i> (Gervais, 1848)
	Gobiidae	<i>Bathygobius fuscus</i> (Ruppell, 1830)
	Leiognathidae	<i>Photopectoralis bindus</i> (Valenciennes, 1835)
	Mullidae	<i>Upeneus doriae</i> (Günther, 1869)
	Platycephalidae	<i>Platycephalus indicus</i> (Linnaeus, 1758)
	Polynemidae	<i>Eleutheronema tetradactylum</i> (Shaw, 1804)
		<i>Polydactylus sextarius</i> (Bloch and Schneider, 1801)
	Scatophagidae	<i>Scatophagus argus</i> (Bloch, 1788)
	Sciaenidae	<i>Johnius belangerii</i> (Cuvier, 1830)
		<i>Johnius dussumieri</i> (Cuvier, 1830)
		<i>Otolithes ruber</i> (Bloch and Schneider, 1801)
	Serranidae	<i>Epinephelus coioides</i> (Hamilton, 1822)
	Sillaginidae	<i>Sillago sihama</i> (Forsskal, 1775)
	Sparidae	<i>Acanthopagrus arabicus</i> (Houttuyn, 1782)
		<i>Argyrops spinifer</i> (Forsskal, 1775)
		<i>Sparidentex hasta</i> (Valenciennes, 1830)
	Stromateidae	<i>Pampus argenteus</i> (Euphrasen, 1788)

	Trichiuridae	<i>Trichiurus lepturus</i> Linnaeus, 1758
Pleuronectiformes	Cynoglossidae	<i>Cynoglossus arel</i> (Bloch and Schneider, 1801)
	Soleidae	<i>Brachirus orientalis</i> (Bloch and Schneider, 1801)
Scorpaeniformes	Synanceiidae	<i>Pseudosynanceia melanostigma</i> Day, 1875
Siluriformes	Ariidae	<i>Netuma bilineata</i> (Valenciennes, 1840)
Synbranchiformes	Mastacembelidae	<i>Mastacembelus mastacembelus</i> (Banks and Solander in Russell, 1794)
Pleuronectiformes	Paralichthyidae	<i>Pseudorhombus arsius</i> (Hamilton, 1822)

**Tab(2): Shows the abundance of fish in Khor Al-Zubiar lagoon**

species	number	group
<i>O. ruber, S. strongylura, M. mastacembelus, C. arabicum, P. argentetus</i>	<6	Very rare
<i>P. melanostigma, E. tetradactylum, C. dorab, A. mata, T. hamiltoni, S. orientalius, P. indicus, N. nasus, A. diedaba, S. hasta, P. sextarius, S. albella, P. georgii, I. compressa, C. zillii, A. spinifer, E. coioides, H. bleekeri, B. orientalis, A. bilineatus, T. lepturus, U. sulphurens, P. arsius</i>	6-50	Rare
<i>T. ilisha, T. whiteheadi, J. dussumieri, A. arabicus, P. subviridis, B. fuscus, S. argus, P. bindus, C. arel, S. commersonianus, S. sihama, J. belangerii L. klunsiingeri,</i>	>50	Common

Two new species that recorded in the Khor Al-Zubair lagoon during the present study were *M. mastacemblus*, and *C. zillii* they are freshwater species that recorded in Khor Al-Zubair for the first time. There were certain factors which contributed to the establishment of relatively small populations of these species, one of the major factors is the influx of freshwater through the Shatt Al-Basrah Canal to the Khor area which dilute the Khor's water (Hussain *et al.*, 1988), there are information about *C. zillii* which showed that the Khor Al-Zubair could be considered others feeding for them or important aggregation area before sending to the plain water of south region (Hussain *et al.*, 1999), *C. zillii* consider as wide spread species and the most resistance to diseases and hard environmental conditions such as high salinity and low levels of

oxygen values (Altun *et al.*, 2006). This species was recorded for the first time in Basrah in the southern part of main outfall drain by Mutlak and Al-Faisal (2009), The cluster analysis of *C.zillii* in the present study found the Similarity level with the study of the Ali (1985) study 1 and Hussain *et.,al*(1988) study 2 82% . this is confirm that the water surface seemed to recover and may return to old levels for The emergence of species and the decrease of salinity return it to normal levels. Table (3) showed the characterize the state of fish fauna along the coastline of khor Al-Zubair lagoon ,The high similarity (58.62%) was found between Hussain and Naama (1989) study 3 and present study study 4 and the lowest (14.28%) between Ali (1985) study 1 and Hussain *et.,al* (1988) study 2 .

**Table (3): Comparison of species occurred in Khor Al-Zubair lagoon with previous studies in the same region**

Species	Ali (1985) Study 1	Hussain <i>et al.</i> , 1988 Study 2	Hussain and Naama (1989) Study 3	Present study Study 4
<i>Strongylura strongylura</i>		*	*	*
<i>Chirocentrus nudus</i>	*			
<i>Nematlosa nasus</i>	*	*	*	*
<i>Tenualosa ilisha</i>	*	*	*	*
<i>Ilisha compressa</i>			*	*
<i>Coptodon zillii</i>				*

<i>Boleophthalmus dussumieri</i>	*		*	
<i>Pomadasyys argenteus</i>	*		*	
<i>Liza klunsingeri</i>			*	*
<i>Acanthopagrus berda</i>			*	*
<i>Platycephalus indicus</i>	*	*	*	*
<i>Eluotheronmema tetradactylum</i>	*		*	*
<i>Scatophagus argus</i>	*		*	*
<i>Johnuis belangerii</i>			*	*
<i>Johnuis dussumieri</i>			*	*
<i>Otolithes ruber</i>	*		*	*
<i>Scomberomorus commerson</i>			*	*
<i>Argyrops spinifer</i>				*
<i>Sillago sihama</i>	*		*	*
<i>Acanthopagrus arabicus</i>	*		*	*
<i>Sparidentex hasta</i>			*	*
<i>Pampus argenteus</i>			*	*
<i>Cynoglossus arel</i>	*		*	*
<i>Euryglossa orientalius</i>			*	*
<i>Netuma thalassina</i>	*	*	*	*
<i>Polydactylus sextarius</i>	*		*	*
<i>Trichiurus haumele</i>	*		*	
<i>Rhinobatus granulatus</i>	*	*	*	
<i>Pristis cuspidatus</i>			*	
<i>Hemiramphus marginatus</i>			*	
<i>Liza lacrolepis</i>	*			
<i>Johnius carutta</i>	*			
<i>Thryssa purava</i>	*			
<i>Thryssa whiteheadi</i>	*	*	*	*
<i>Sardenella albella</i>		*	*	*



<i>Mastacemblus mastacemblus</i>				*
<i>Ilisha megaloptera</i>		*	*	
<i>Nematalosa Arabica</i>		*		
<i>Ilisha melastoma</i>		*	*	
<i>Anodontostoma chacunda</i>		*		
<i>Thryssa hamiltoni</i>		*	*	*
<i>Chirocentrus dorab</i>		*	*	*
<i>Maraenoso x cinereus</i>	*	*	*	
<i>Alburnus capito</i>		*		
<i>Lethrinus netulosus</i>	*			
<i>Saurida undosquamis</i>		*	*	
<i>Bregmaceros macclettandii</i>		*	*	
<i>Carchahinus dussamiri</i>		*	*	
<i>Therapon puta</i>		*	*	
<i>Leiognathus binds</i>	*		*	*
<i>Hypolophus sephen</i>		*	*	
<i>Dasyatic gerrardi</i>		*		
<i>Dasyatic imbricatus</i>		*		
<i>Pseudorhombus arsius</i>			*	
<i>Trichiurus lepturus</i>			*	
<i>Periophthalmus waltoni</i>			*	
<i>Bathygobius fuscus</i>			*	*
<i>Liza abu</i>			*	
<i>Carcharhinus leucas</i>			*	
<i>Chilosoyllium grisem</i>			*	
<i>Psettodes erumei</i>			*	*
<i>Alepes djedaba</i>			*	*
<i>Atule mata</i>			*	*
<i>Rhynchorhamphus georgii</i>			*	*

<i>Pseudosynanceia melanostigma</i>	*		*	*
<i>Epinephelus coides</i>	*			*
<i>Eupleurogrammus glossodon</i>	*			*
<i>Planiliza subviridis</i>			*	*
<i>Upeneus doriae</i>		*	*	*
<i>Thryssa mystax</i>			*	
<i>Epinephelus tauvina</i>			*	
<i>Epinephelus areolatus</i>			*	
<i>Pomadosys maculatus</i>			*	
<i>Pseudo triacanthus</i>			*	
<i>Leptosynanceia melanostigma</i>			*	
<i>Charcharinus melanopterus</i>			*	
<i>Cryptocentrus filifer</i>			*	
<i>Caranx para</i>			*	
<i>Nemipterus japonicas</i>			*	
<i>Nematalosa aratica</i>			*	
<i>Hippocampus kuda</i>			*	
<i>Himanture urank</i>			*	
<i>Selar crumenophthalmus</i>			*	
<i>Scarus ghobban</i>			*	
<i>Actomyllacus nichoffi</i>			*	
<i>Dasyatis gerrardi</i>			*	
<i>Mobula diabolus</i>			*	

Figure ( 2 ) Showed the cluster analysis between the studies carried in Khor Al-Zubair lagoon during the period 1985 to 2013 . Three main group were obtained ,the first

include two secondary groups, The first secondary group include the study 1 and 2 .The second one include the study 4 , the second main group include the study 3 only.



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## تحديث قائمة مرجعية لأسماك خور الزبير شمال غرب الخليج العربي

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الملخص:

وصفت الدراسة الحالية التجمعات السمكية في خور الزبير شمال غرب الخليج العربي باستخدام شبكات أسماك مختلفة ، سجل مجموع 40 نوعًا ينتمون إلى 29 عائلة و 11 رتبة. تم العثور على أن ترتيب Perciform سيطر على ichthyofauna في خور الزبير، تمثلها 14 عائلة و 21 نوعًا.

كانت النسبة المئوية للأنواع النادرة جدا من إجمالي العدد 12.5 % ، بما في ذلك خمسة أنواع *Chiloscyllium* ، *Pampus argentatus* ، *Otolithes ruber* ، *Mastacembelus mastacembelus* ، *arabicum* ، *Strongylura strongylura* ، في هذه الدراسة ، استخدمنا تحليل similarity بين الدراسات السابقة: علي ، 1985 (الدراسة 1) و حسين ونعمة ، 1980 (الدراسة 2) والدراسة الحالية (الدراسة 4) ، وكان التشابه العالي (58.62 %) بين الدراسة 1 والدراسة 2.

الكلمات المفتاحية: خور الزبير ، تجمعات الأسماك ، Ichthyofauna