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Effect of Alien species on assemblage fishsin Shatt Al-Arab river and East Al-Hammar Marsh

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Abstract

The present study was choose two zones the first called Sinbad in the Shatt al-Arab river and the second zone called Al-Salal in Al-Hammar marsh the period from April 2013 until March 2014. 13 were studied environmental factor in both regions. Record of 12 species of alien species and has been record 9 and 11 individual fishing in Shatt Al-Arab river and Al-Hammar marsh respectively. was record 3091 and 16988 individual in the Shatt al-Arab river and Al-Hammar marsh respectively. While catch 4858 and 62614 individual from total number of fish catch in the Shatt al-Arab and Al-Hammar marsh respectively, while the total number of fish catch was 6747 fish also formed three species of 89.83% of the total number of alien species, While were recorded 7 species sensitive endemic in two stations and record 5 species were present species tolerant. has also been fishing 38 species in the present study,while the highest values (2.12) of diversity index (H) was obtained in December and the lowest (0.86) in October. the results showed statistical analysis using (F.test) the existence of significant differences under the level (P> 0.05) between the two station.

Keywords: Shatt Al-Arab river, Al-Hammar marsh, Alien species, Sensitive species.

Introduction

Knownalien speciesare defined as thosethat existin thearea outside theknownnaturalrangehistorically,as a result ofspreadbecause ofhuman activities,intentionally orunintentionally, such as enteredbymeans of transport, as in the case ofballast waterin the marinevesselsorfor breeding purposesorcontrollifetoan ecosystemwhichdo notlivenormally andthat operatein turnthreatenedecosystemsornative speciesandthatthese speciesbecome invasivebecause of the highreproductionratesandcompete withandreplacenative speciesreplacedandwhichexistnaturally in theareaor regionin the ecosystem[1]. The aquatic biodiversity of the world is changing and getting depleted alarmingly fast as a result of extinctions caused by habitat loss, pollution, introduction of exotic species, over exploitation and other anthropogenic activities [2]. Andincrease the number ofalien speciesincreasedturbulenceof lifewhichexperiencedwater body, resulting in a decreasein the number ofendemicspecies of fishandincrease the number ofexotic fishspeciesthat arefast-proliferation and environmental problemsoccurupwardsat the expense ofother types[3]. It noted the high incidence of the disorder of life in rivers, lakes and canals, and increase the number of species, whether incurred "It was a settlement or strange, spin-tolerant

species [4].Some exotic freshwater fish species in Iraqi inland waters reported in previous studies[5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21].
The aim of study to examine impact of alien species or entered on fish populations and the presence abundance of native species in the Shatt al-Arab river and East Al-Hammar marsh.

Describe study area:

Shatt al-Arab is one of the main sources of fresh water flowing into the Arabian Gulf and is composed of the confluence of the Tigris and Euphrates at Qurna city and extends south-eastern direction in Iraqi territory on both shores to 120 km distance. That the length of the river of 200 km and width between 500-1500m and depth between 5-15m [22,23]. And exposed Shatt al-Arab to the tiad zone of the tides from the Arabian Gulf by the debtor and Dzran per day is equal to the extent, as the difference between the high tide and the low up about 3 m at Al- FAO city and 1m at Al-Maqale city[22].(fug.1).

And Al-Hammar marsh at zone characterized by the proliferation of aquatic plants including *Visenaria sp,Ceratophylum demersum,Myrophylum sp* and water lilies, known Balkaaabh both types *Nymphoides indica,N. peltata* and *Utricalaria australis* insect and *Sagittaria sagitifolia,Phragmites australis,Potamogeton sp* and *Lemna sp*[24]. As well as study stations characterized by the presence of species of migratory birds is the most famous big *Albioda Egretta,Gallinula chloropus,Ardea golatt , Anas platyhyncnchous* and *chloropus Gallinula*.

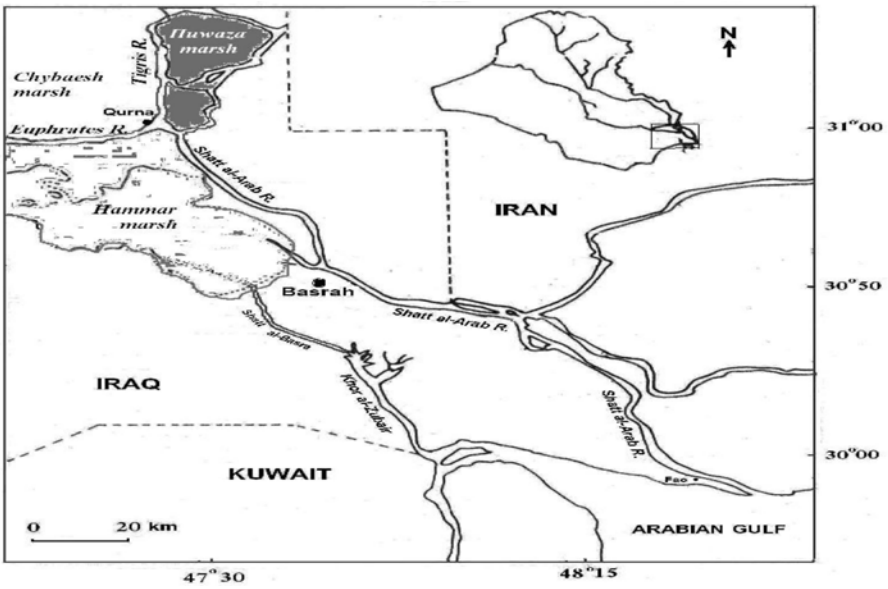


Figure (1) Mapfor Two station in present study

Material and Methods

It has been fishing during the state of the islands and use them Nets puzzling,It was electrocuted fishing to cover the places with high densities of plants, was conducted trips field to collect fish and water samples for the period from the month of April 2013 - March 2014 using two seinenets of total length of 100 m and 1.5 m depth with20 and 25mm mesh size and uses gill net of the total length 20m and 1.5 cm mesh size. Fish specimens were identified according to[25].and[26]. With [14]. and as it has been some environmental factors to measure, including the water temperature measured in degrees Celsius, pH, salinity part per thousand and TDS crosses for output units (mg / L).dissolvedoxygen(DO) measured in units of ml/ l using type Yasi Model 57 US-made Kalbunch company, and calculated the BiologicalOxygen Demand (BOD5) by measuring the amount of dissolved oxygen and then the samples were left in the dark degree 20 ℃ for a period of five days after the measured dissolved oxygen again , according to the method described by the American Public Health Association [27]. And calculated Biological oxygen demand mynas the readings, expressed in

units of gross µl / l.each of the nitrate concentration depending on the method set out in [28]. and modified by [29]. and expressed the unity of the resulting nitrogen atom µg N / l, the concentration of nitrite in the manner described by [28]. approved by [30]. and expressed the unity of the resulting nitrogen atom µg / l and phosphate by the way [28]. and approved by [31]. and expressed the unity of the resulting phosphorus atom µg/ l. It was the use Turbidity meter factory Turbidity Direct device type by Lovibond company to measure the turbidity and expressed output unit NTU. record ion Ca and Mg by the method described by [32]. expressed the resulting mg / L unit has been measuring the chloride ion manner and according to the method described by [33]. and expressed the resulting mg / l unit. It was measured total phosphorus, total nitrogen, according to the method described by [33]. across all output unit µg / l. and according

Diversity index(H) $H=\sum Pi \ln Pi$ [34].

Pi = the proportion of individuals in the(i) the species of the whole sample.

Richness index (D) $D = S-1/ \ln N$ [35]. S= the number of species in the sample. N= the number of individuals in the sample.

Evenness index (J) $J = H/ \ln S$[36]. .H= diversity index.S= the total number of species.

Results and Discussion

In present study was catch 20079 fish Included in 3091 fish in the Shatt al-Arab river and 16988 fish in East Al-Hammar marsh.it was also recorded 38 species belonging to 15 families including in Shatt Al-Arab river and Al-Hammar marsh respectively as shown in the (table,1)

Table: 1. Check list of fish fauna collected from two station

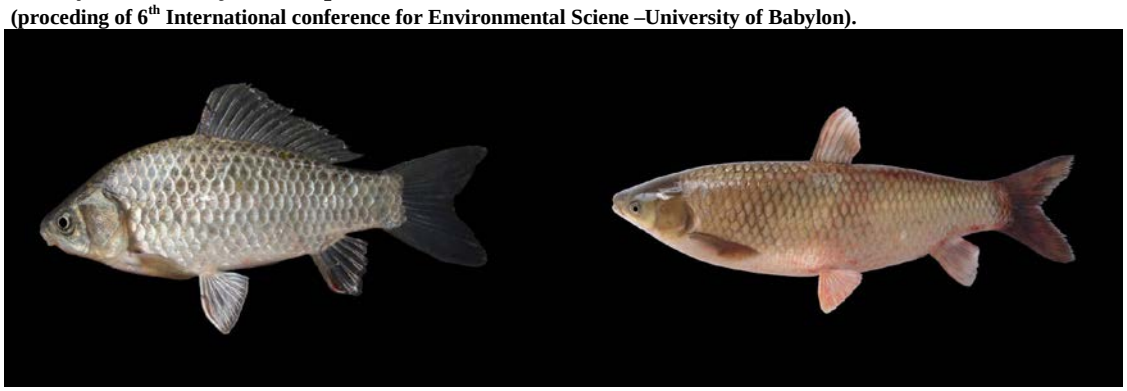
species	family	order	Shatt Al-Arab river	EastAl-Hammar marsh
Thryssa hamiltonii (Gray,1853)	Engraulidae	Clupeiformes	*	*
Thryssawhiteheadi Bloch and Schneider, 1801)	=	=	*	*
Bathygobius fuscus (Ruppell, 1830)	Gobiidae	Perciformes	*	*
Periophthalmus waltonii Koumans,1941	=	=	-	*
Liza klunzingeri (Day, 1888)	Mugilidae	=	*	*
Liza subviridis (Valenciennes, 1836)	=	=	*	*
Liza abu	=	=	*	*
Sillago sihama (Forsskal, 1775)	Sillaginidae	=	*	*
Acanthopagrus arabicas (Houttuyn, 1782)	Sparidae	=	*	*
Sparidentex hasta (Valenciennes, 1830)	=	=	*	*
Cynoglossus arel (Bloch and Schneider, 1801)	Cynoglossidae	Pleuronectiformes	*	*
Tilapia zillii (Gervais,1848)	Cichlidae	Perciformes	*	*
*Oreochromis aureus(*steindacher,1864)	=	=	*	*
Oreochromis niloticus(Linnaeus,1758)	=	=	*	-
Leuciscus vorax Heckel, 1843	Cyprinidae	Cypriniformes	*	*
Carasobarbus luteus (Heckel, 1843)	=	=	*	*
Mesopotamichthys sharpeyi (Gunther, 1874)	=	=	-	*
Luciobarbus xanthopterus Heckel, 1843	=	=	*	-
Carassius gibelio (Linnaeus, 1758)	=	=	*	*

Ctenopharyngodon idella (Valenciennes in Cuvier & Valenciennes, 1844)	=	=	*	-
Hypophthalmichthys molitrix (Valenciennes in Cuvier & Valenciennes, 1844)	=	=	-	*
(Richardson, 1844) *Hypophthalmichthys nobilis*	=	=	*	*
Cyprinus carpio Linnaeus, 1758	=	=	*	*
Cyprinion kais Heckel, 1843	=	=	*	-
*Acanthobrama marmid*Heckel, 1843	=	=	*	*
Alburnus mossulensis Heckel, 1843	=	=	*	*
Hemiculter leucisculusw	=	=	*	*
Heteropneustes fossilis (Bloch, 1794)	Heteropneustidae	Siluriformes	*	*
Silurus triostegus Heckel, 1843	Siluridae	=	*	*
Aphanius dispar (Ruppell, 1829)	Cyprinodontidae	Cyprinodontiformes	*	*
Gambusia holbrooki Girard, 1859	Poeciliidae	=	*	*
Nematalosa nasus (Bloch, 1795)	Clupeidae	Mugiliformes	-	*
Tenualosa ilisha (Hamilton-Buchanan, 1822)	=	=	*	*
Ilisha compressa Randall, 1994	Pristigasteridae	=	-	*
Phynchorhmphus georgii	Hemiramphidae	Beloniformes	*	*
Poecilia latipinna	poeciliidae	poecilformes	*	*
Aphanius mento	Cyprinodontidae	Cyprinodoformes	*	*
Leiognathus bindus	Leiognathidae	Leiognaformes	*	-

Alien species:

A result catch 12 species of alien speciesin this study consist in 11 species catch in the Shatt al-Arab river, So catch 10 species of East Al –Hammar marsh as shown in the plat from (1-12) and The highest number of Alien species in April (7) species in Shatt Al-Arab river and record (7) species in April, May and November in East Al-Hammar marsh ,While the lowest which formed (3) species in September and February in Shatt Al-Arab river and also record in February (3) species in East Al-Hammar marsh figure(2).

Alien species which formed 31.5% of the total number of species catch in the present study and as it formed 35.4% , 28.5% of the total number of species catch in the Shatt Al-Arab river and Al-Hammar marsh respectively. As has been obtained on 3091 Individuals and 16988 Individualsof Alien fishs catch in the Shatt al-Arab river and Al-Hammar marsh respectively , the dominant was species*P.latipinna* in two study, as which formed 57.5% and 88.2% of the total number of Alien species and formed8.82%of the total catch in Shatt Al-Arab river which formed 74.3% of the total catch in East Al-Hammar marsh . While three Alien species formed a *T.zilii, O.aureus, P.latipinna* ratio 89.4% of the number of Alien species catch in the Shatt al-Arab river, while the same species amounted to 97.6% of the total number of Alien species catch in Al-Hammar marsh (Table 2), while the highest catch number of species*P.latipinna* in Join reached 1000 Individualsin Shatt al-Arab river and in January 6300 Individuals in East Al-Hammar marsh,while the back species, *O.aureus* in September and January accounted for 544 Individualsand 420 Individualsfrom fish catch in the Shatt al-Arab river and Al-Hammar marsh respectively. As species catch *T.zilii*and amounted to 112Individualsin August and catch 313 Individualsin January in both of the Shatt Al-Arab river and Al-Hammar marsh respectively.



Plat. (1): *Carassius gibelio* (Bloch,1782)plat. (2): *Ctenopharyngodon idella* (Valenciennes in Cuvier & Valenciennes, 1844)

plat. (3): *Cyprinus carpio* Linnaeus,1758plat. (4): *Hemiculter leucisculus* (Basilewsky, 1855)

plat. (5): *Hypophthalmichthys molitrix* (Valenciennes in Cuvier & Valenciennes, 1844)plat. (6): *Hypophthalmichthys nobilis*(Richardson, 1844)

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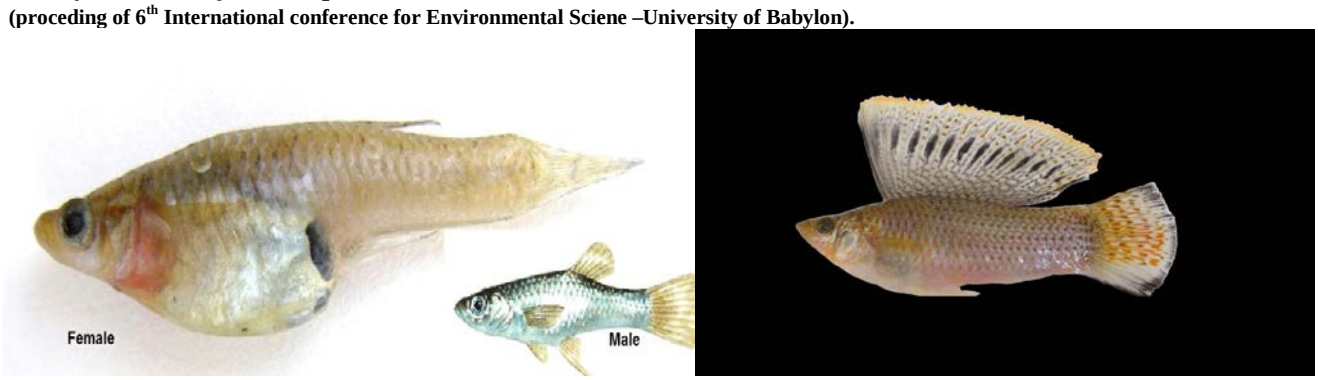
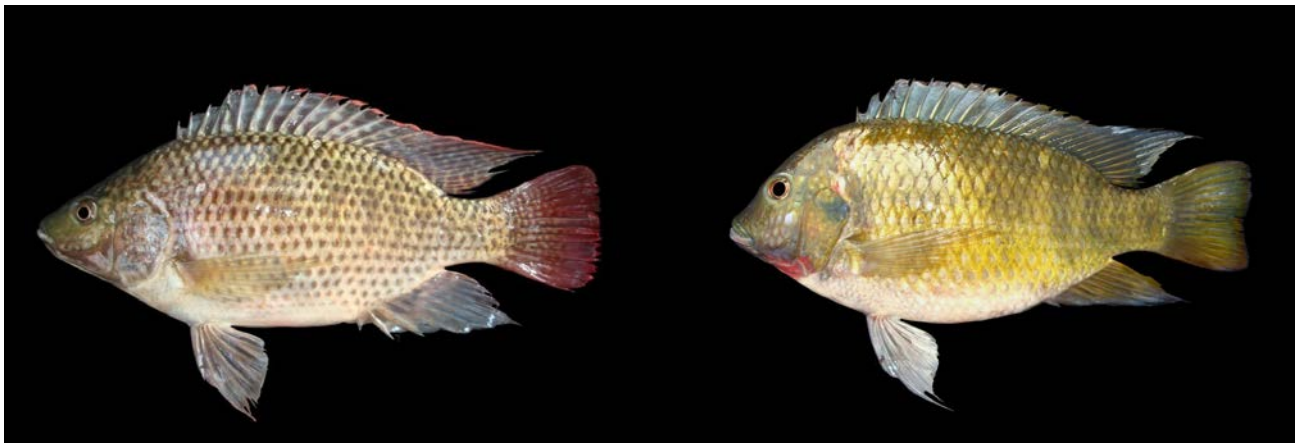


Plat. (7): *Gambusia holbrooki* Girard, 1859plat. (8): *Poecilia latipinna* (Lesueur, 1821) male.



plat. (9): *Oreochromis aureus* (Steindacher, 1864)plat. (10): *Tilapia zillii* (Gervais, 1848)

plat. (11): *Heteropneustes fossilis* (Bloch, 1794)plat.(12) *Oreochromis niloticus(Linnaeus,1758)*.

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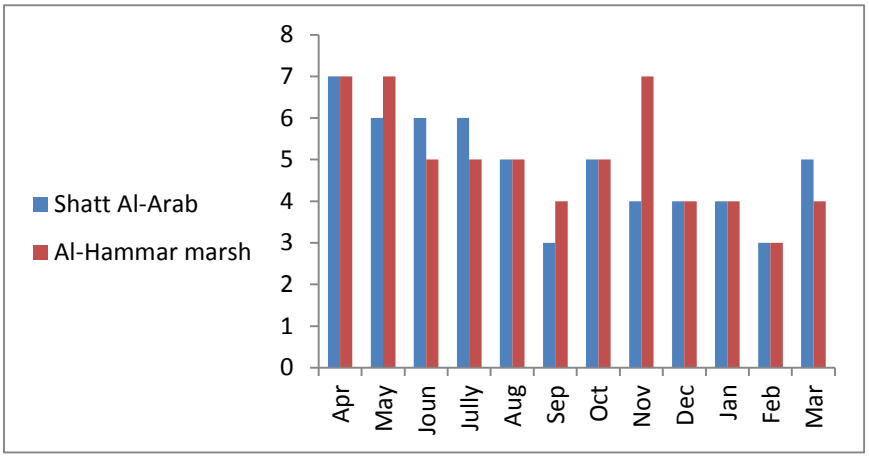


Figure: 2. Number of Alien species in Shatt Al-Arab and East Al-Hammar marsh

Table: 2. Alien species and ratio collected from two station

Alien Species	N.of Individual in Shatt Al Arab river	N.of Individual in East Al-Hammar Marsh	% of Shatt Al-Arab river	% of East Al-Hammar Marsh
Tilapia zillii	389	812	12.6	4.77
Oreochromis aureus	606	787	19.68	4.63
Oreochromis niloticus	2	-	0.06	-
Carassius gibelio	230	415	7.46	2.44
Cyprinus carpio	14	16	0.45	0.09
Ctenopharyngodon idella	3	-	0.09	-
Hypophthalmichthys molitrix	-	4	-	0.02
Hypophthalmichthys nobilis	2	2	0.06	0.01
Poecilia latipinna	1771	14993	57.5	88.2
Hemiculter leucisculusw	2	3	0.06	0.01
Gambusia holbrooki	56	55	1.81	0.32
Heteropneustes fossilis	8	7	0.25	0.04
Total number of alien individuals	3091	16988	-	-
Total number of alien species	11	10	-	-

sensitive species;

Brought together in this group (7)species,(tabul.3) "the equivalent (18.42%)species of the total number in the Shatt al-Arab river and East Al-Hammar marsh,While thehighestof total number of sensitive species in May amounted to (7) species that in May and July in Shatt Al-Arab river and in May and December forEast Al-Hammar marsh respectively (fug.3). And lowthe total number of sensitive settlement in November (1)species in Shatt Al-Arab river and also (1) species in October

and January in East Al-Hammar Marsh.A resultsamounted to sensitive species (0.33%) and (0.13%) of the total number fish catch in present study in Shatt Al-Arab river and East Al-Hammar marsh ,which formed while the results of numerical abundance explained that three speciesfrom fishs sensitive settlement has been formed (1.48%) from the total number of fishs catch in the Shatt al-Arab river and formed (88.4%) of the total number fishs sensitive settlement,a respectively*L.vorax, B.fuscus and C.latus* in Shatt Al-Arab river. As the results of numerical abundance explained that three speciesfrom sensitive species settlement amounted to (1.54%) of the total number of fish catch in East Al-Hammar marsh respectively,and accounted for (97%) of the total number fishs sensitive settlement in East Al-Hammar marsh .a respectively *B.fuscus* , *C.latus* and *P.waltonii*, it has been dominant for *B.fuscus* amounted to (63%) , (90.4%) of the total numberfishs sensitive settlementcatch in the Shatt al-Arab river and East Al-Hammar marsh respectively.

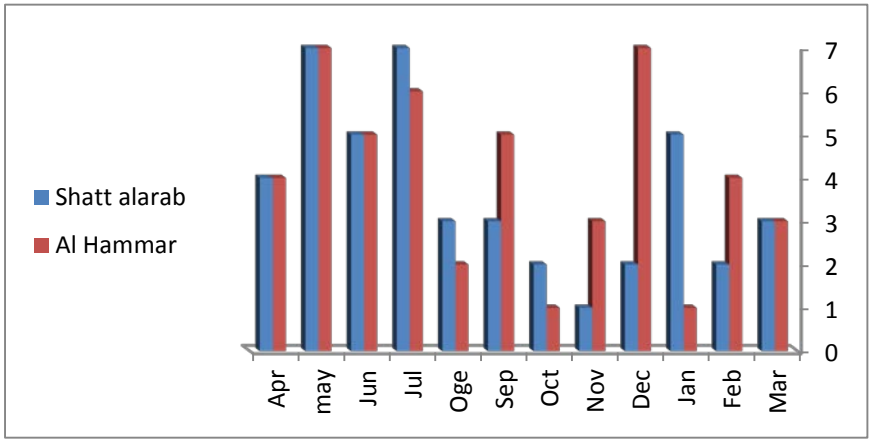


Figure: 3. Number of Sensitive settlementspecies in Shatt Al-Arab river and East Al-Hammar marsh

Tolerance species:

This group included (5) species,(tabul,3) equivalent to (13.15%) of the total number of species. the highestnumber from tolerance individual in Shatt Al-Arab river and Al-Hammar marsh in September 900 individual andJanuary 1150 individual in two station respectively, and the lowest number tolerance in January 53 individual in Shatt Al-Arab river and in March 388 individual in Al-Hammar marsh.(fig. 4).The results of the numerical abundance that three species of fish Tolerance had formed (31.24%) and (23%) of the total number of fish catch in the Shatt Al-Arab, a respectively *A.mossulensis, A.marmid, L.abu* and East Al-Hammar marsh respectively, which respectively *A .mossulensis, A.dispar, L.abu*, and formed (93%) of the total number of fish incurred in the Shatt al-Arab river, and while formed as the same tolerance species catch (83.5%) of the total number of fish tolerance inEast Al-Hammar marsh, while the total number of fish tolerance in the Shatt al-Arab river (1625) individual and East Al-Hammar marsh (4699) individual, that dominant *L.abu* Fish prevailed in each of the Shatt al-Arab river and East Al-Hammar marsh and catch (468) individual, including in the Shatt al-Arab river and (2147) individual in East Al-Hammar marsh.

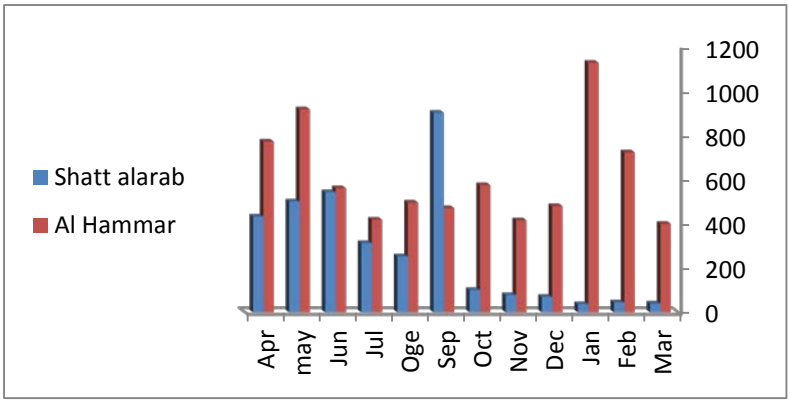


Figure: 4. Number of Individual Tolerancespecies in Shatt Al-Arab river and East Al-Hammar marsh

Table: 3. Alien ,sensitive and Tolerance species collected from two station

Alien species	Sensitive species	Tolerance species
C.carpio	*L.vorax*	*A.dispar*
C.idella	*L.xanthopterus*	*A.mento*
C.gibelio	*C.latus*	*A.marmid*
H.molitrix	*C.kais*	*A.mossulensis*
H.fossilis	*B.fuscus*	*L.abu*
H.leucisculus	*p.waltonii*	
H.nobilis	*M.sharpeyi*	
O.aureus		
O.niloticus		
G.holbrokii		
P.latipinna		
T.zilii		

The number of affluencefor Alien species ;:

It formed three species(89.83%) of the total number of alien species catch in the Shatt al-Arab river, a*P.latipinna, O.aurens, T.zillii* while dominate*P.latipinna* Fish in this study which formed(57%) and (88.25%)from the total number of catch fish in the Shatt al-Arab river and East Al-Hammar marsh respectively. The total increase of (80.9%) of the total number of alien species and accounted for (36.4%) and (23.9%)from the total number of fish catch in the Shatt al-Arab river and East Al-Hammar marsh,while two species*O.aurns* and *T. Zilii*which formed(19.68%),(12.63%)of the total catch of alien species in the Shatt al-Arab river and amounted to (4.63%),(4.77%) of the total catch inEast Al-Hammar marsh.

Ecological factors Fifteen environmental factorswere measure from that temperatureandsalinity ,thehighest temperature 33.66℃in August andthe lowest 15.85℃inDecemberWhile thehighestconcentrationof salinityinFebruary (5.12)ppt andthe lowestconcentrationof salinity in October(1.03)ppt in Shatt Al-Arab river

(table,4).

Table.4: Illustrate level some elements and ecological factors during collected specimen in Shatt Al-Arab river

Month	CL Mg/l	Mg Mg/l	CA Mg/l	TP µ/l	TN µ/l	PO4 µgP /l	NO2 µgN/l	NO3 µgN/l	TDS Mg/l	Turbidity Ntu	Ph	BOD5 Mg/l	Do Mg/l	Salinity ppt	Temperature ℃
April	426	97	139	0.115	154	0.048	0.85	905	4034	3.62	7.17	2.34	3.76	3.67	22
May	4112	24.3	32.0	0.48	3.5	0.13	4.68	11.08	2.75	4.91	7.85	3.73	5.36	1.15	27.8
Join	602	48.6	192	0.0495	3.5	–	0.692	22.29	1.83	3.4	7.88	1.58	3.94	1.46	25.97
July	4112	24.3	320	0.32	3.5	0.008	13.52	11.08	2.011	4.76	7.83	2.2	2.12	1.58	37
August	81605	14.5	800	0.072	3.6	0.0092	2.3	3.2	2.19	8.80	7.64	1.85	5.40	1.75	33.6
September	319	77	160	0.245	2.1	0.104	1.92	10.2	1.07	8.11	7.71	2.1	7.23	1.07	28.31
October	41122	24.3	320	0.48	3.06	0.130	4.68	11.08	1.31	8.15	8.47	2.13	5.66	1.03	22.40
Novem	390	68	160	0.156	1.4	0.05	0.895	9.4	1.500	9.27	8..44	2.87	6.41	1.19	20

ber															
December	1.605	34.02	352	0.070	201	0.03	0.332	24.76	2.51	10.6	8.37	5.22	10.20	2.06	15.8
January	27609	194.4	240	0.028	104	0.02	0.0176	0.966	3.34	309	8.20	4.52	7.19	3.93	16.7
February	2354	298	328	0.3	1.3	0.2	0.084	5.88	5.33	7.11	8.11	3.24	5.76	5.12	16
March	910	29106	1120	0.377	104	0.04	4.38	18.24	2	3.86	8.34	5.54	32	1.64	21

Illustrate table (5)thehighest temperature and thehighestconcentrationof salinity in July 29℃ and in January 5.40ppt respectively,andthe lowesttemperature 16℃ in December andthe lowestconcentrationof salinity 1.35ppt in October respectively.

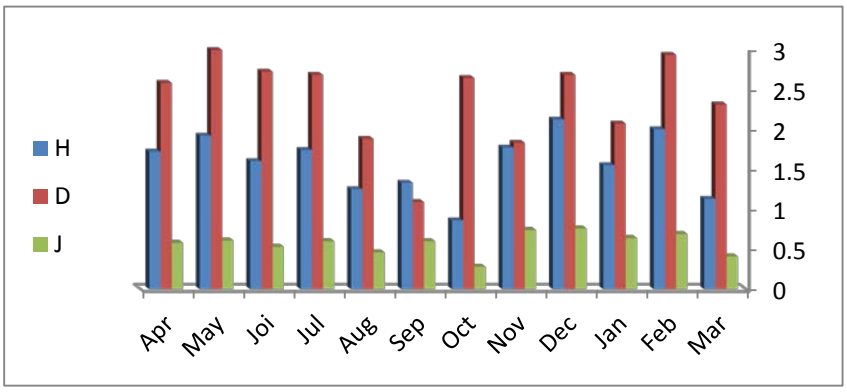
Table.5: Illustrate level some elements and ecological factors during collected specimen in East Al-Hammar marsh

Month	**Cl Mg /l**	**Mg Mg /l**	**CA Mg /l**	**TP µ/l**	**TN µ/l**	**PO4 µgP /l**	**NO2 µgN /l**	**NO3 µgN /l**	**TDS Mg/l**	**Turbidity Ntu**	**Ph**	**BOD5 Mg/l**	**Do Mg/l**	**Salinity ppt**	**Temperature° ℃**
April	910	291.6	1120	0.377	1.4	0.04	4.38	18.24	5.75	11.3	8.44	2.1	5	4.90	23
May	709	102	120	0.32	5.6	0.099	13.52	16.98	3.47	5.83	7.24	1.8	4.86	2.87	26.38
Join	496	53.46	184	0.117	2.8	0.05	0.102	20.4	3.27	9.46	7.32	0.48	3.37	2.71	24.3
July	709	103	120	0.48	5.6	0.099	4.68	16.98	2.70	8.2	7.96	1.53	3.38	1.96	29
August	1242	243	1200	0.130	2.8	0.074	2.9	6.3	3.33	9.7	8.33	0.9	5.59	2.74	28.8
September	1242	240	1202	0.11	2.7	0.070	2.6	6.1	2.11	8.3	7.5	2.1	6.52	1.69	26.76
October	708	103	120	0.32	5.6	0.099	13.52	16.98	1.68	8	8.31	0.7	3.9	1.35	20.9
November	497	128	34	0.141	2.1	0.072	0.950	6.280	2.55	3.5	8.39	2.3	7.64	2.99	19.26
December	142	34.02	360	0.13	1.4	0.03	0.28	35.9	2.21	11.7	8.18	2.5	7.46	1.80	16
January	667	320	170.1	0.15	2.1	0.036	1.65	6.05	6.22	5.54	8.16	2	6.90	5.40	16.1
February	2694	331	400	0.320	1.3	0.179	0.5	6.7	5.46	7.23	7.52	21	6	4.70	17.8
March	1365	631.8	960	0.33	2.2	0.19	13.36	34.10	5.31	11.3	8.18	7.3	11	4.55	21

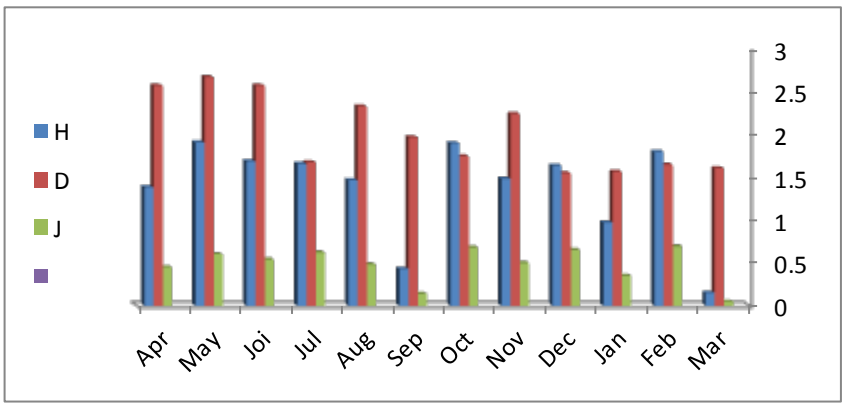
Diversity Index:

Monthly values of the richness index (D) fluctuate between (1.09) in September to (2.99) in May. while the highest values (2.12) of diversity index (H) was obtained in December and the lowest (0.86) in October. The evenness index (J) fluctuate from (0.28) in October to (0.70) in Decemberin Shatt Al-Arab river(Fig.5). And also which found values of the

richness index (D) fluctuate between (1.54) in December to (2.66) in May. while the highest values(1.90)of diversity index (H) was obtained in May and the lowest(0.15) in March and the evenness index (J) fluctuate from (0.05) in March to (0.69) in February in East Al-Hammar marsh (Fig.6).and explain table.(6) show ecological index in last studies and study area in Satt Al-Arab river and East Al-Hammar marsh respectively.



Fuger:5. Diversity(H) Evenness(J) and Richness(D) value in Shatt Al-Arab river



Fuger:6. Diversity(H) Evenness(J) and Richness(D) value in East Al-Hammar marsh

Table:6. Diversity(H) Evenness(J) and Richness(D) value in last studies and present study

Shatt Al-Arab river	**H**	**D**	**J**	**References**
	0.30-1.75	0.000-0.00	0.10-0.75	[37]
	0.61-2.13	0.43-2.78	0.28-0.89	[38]
	0.12-1.50	0.94-2.18	0.05-0.60	[39]
	1.26-2.20	1.05-2.44	0.52-0.84	[40]
	1.89-3.18	1.15-3.71	0.74-0.96	[41]
	0.66-2.4	2.21-3.38	0.25-0.77	[42]
	0.86-2.12	1.09-2.99	0.28-0.76	Present Study
East Al-Hammar Marsh	1.40-2.76	-	-	[43]
	1.30-2.60	1.40-2.07	0.57-0.82	[44]
	1.07-2.01	0.74-2.83	0.48-0.84	[45]
	1.28-2.61	1.94-4.50	0.45-0.78	[46]
	0.15-1.90	1.54-2.66	0.05-0.69	Present Study

The presence or abundance of alien species or intervention as a direct disturbance in the environment for being predators, or in the case of competition with existing species as it can be that these species be negative effect and adverse impact on members of native species through breeding or feeding [47].

[44] that the large abundance of alien species such as *C.jebilo* impact heavily on food relations and crowded and competed Native species such as *B.sharpyi* and *B.lutus*and this accent in the present study, as alien species accounted for 31.5% of the total number species catch and compared with sensitive species a few in the Shatt al-Arab and East Al-Hammar marsh 0.33% and 0.13% and the decline of sensitive species sometimes attributed to that there is water ecosystem disturbance by human [48].also indicated the study of [49]. the increase in oil pollution in the Shatt al-Arab and increased organic pollution by organic carbon content level and perhaps be noted that by increasing turbidity in the first station, as measured average turbidity between 3.4-10.6 UNT, while salinity plays an important role in determining the biological community and structure [50]. and that increasing the concentration of salt in February and January ppt5.40 and 5.12 ppt in two stations study led to the lack of the total catch in these two months and attributed the increase of salinity in those months to break the khamesia dam in the province of Al-Nasria city,and inside the water drainage to the marshes and to the Shatt al-Arab river, and the dominion of species*p.latipinna* in stations study the form of 8.82% of the total catch in the Shatt al-Arab river and form 74.3% of the total catch of Al-Hammar marsh consistent with study [44]. in the marshes southern of Iraq whendominion *C. auratus* on the all of fishs catch in the study, and this certainly [51].

when dominion*C.carassus* Fish prevailed in his study on fresh water Fishs on Rivers in India. This certainlystudy and in spite of all the circumstances and environmental turmoil and environmental changes in Shatt al-Arab river dominioned fishs *L.abu* a tolerance species for all environmental conditions prevailed by increasing the number of individuals 1150 in January and accompanied by increased concentrations of salinity in East Al-Hammar marsh in the same month, and the formation of three species which formed 89.83 % of the total number of alien species catch in the first station more Compared with the second station, and the increase in alien species a effects directly on the low numbers of sensitive species for example *L.xanthopterus,C.latus* and *M.sharpeyi*on a few number and certainlythis study [52]. during analysis for 31 study work to reduce sensitive national species ratio (77%) has caused to enter fish of Nile to Lake Victoria in Africa in year 1954 to extinction of more than 200 species of fish native species . and also increase the species tolerant and that on assemblages in two stations, which perhaps is attributable to the cases of disorderly conditionand also too record two new species *O.aureus,T.zilii*[14]. and record *O.niloticus* in the Shatt al-Arab river in last time and certain this study [53]. During that study of alien species in the Shatt al-Arab river. As well as entry of alien species to water compressed consider one of the factor change in biodiversity [2]. and affirm that low diversity index in two stations as well affirmdis agree with study [46]. as recorded more than from of values for studying on Al-Hammar marsh.

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