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First record occurrence two species of Nile Tilapia *Oreochromis niloticus* and *Oreochromis aureus* from theN.W. Arabian gulf, southern Iraq

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Abstract

The recorded two species *Oreochromis niloticus* and *Oreochromis aureus* the first recorded in November /2018,the study of period from January to December /2018 ,the consider two species from exotic cichlid ,were collected by seine nete of total length 100m and 1.5 m depth with 20 and 25 mm mesh size. The Salinity and Ph 39.7ppt ,6.15 respectively. The specimens ranged from 14 -20 cm total length and from 40gm to200g in weight was measured meristic and morphometric characters with specimens. the different of two species in lateral line *O.niloticus* 15-23 and *O.aureus* 14-21, Gill rakers 31,19 respectively.

Key words: Tilapia ,Iraqi marine water, exotic species.

Introduction

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 [1].The northern part of the Arabian Gulf was characterized by extensive mudflats which were described by [2].This is an important area which was used by many species of fishes as feeding and nursery ground at high tide [3].The Red belly tilapias is established in the Syrian Euphrates, and record at Al Musayyib on the Euphrates river in Iraq [4 ,5]. and recorded at the main outfall drain in Basrah city [6].The majority of exotic marine species listed in sea water ,about 90% of this biota consist of migrant species[7].

The family Cichlidae (order Perciformes) consists of 1524 species [8],distributed from South Africa to northern Syria. Tilapia was introduced into many countries for aquaculture. These fishes are at present widespread in water bodies of several tropical and subtropical countries, where they have been cultured [9],Some tilapia class recorder species in Iraqi inland waters reported in previous studies[4,5,6,10].the aim in study is the first record inside of tilapia fishs into the Iraqi marine waters.

Material and Methods

It is located between (48˚47'14 E and "29" 48'24N). It is characterized by open water and wide depths up to 40 m. It is characterized by the zone of medium boats and big ships. The area is characterized by the zone of coral reefs [11].fishing nets, Seine nets, fishing net and small birds such as gulls, It is also characterized by "high winds in the summer and winter seasonally and are present in many of the estimated survival throughout the year 50-90 boats is characterized soil a gradual natural gradient as shown in Fig. 1.

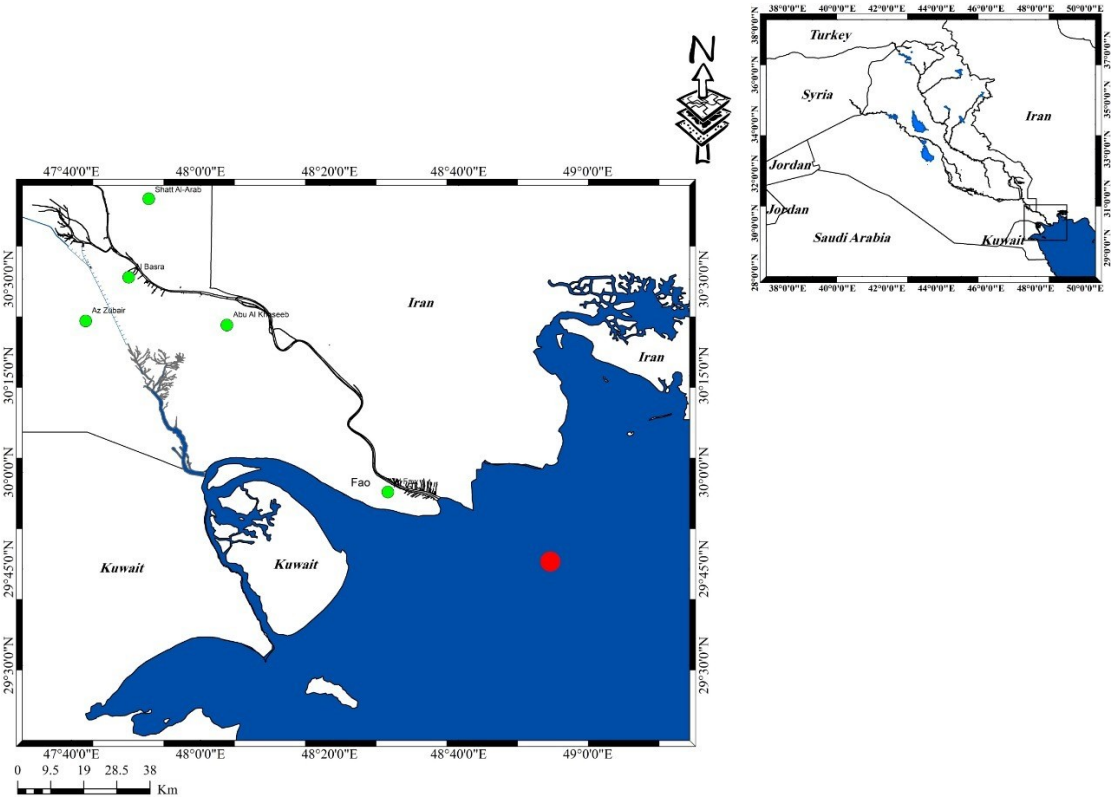

Fig.1: explain the study area in marine waters

Fish samples were collected in November 2018 during the time of the islands and by two trips to the Iraqi marine waters. The fish were caught by using trawl net work along the meshe size of the openings in the wings 5 cm and the bag 4.5 cm and the length of the rope between 75-100m and take time Pull the grid into the water three hours .two specimen of croaker fish one of *Oreochromisniloticus* and *Oreochromis aureus* respectively, the specimens are deposited in the marine science center, University

of basrah, Iraq. eight meristic characters were counted employing dissection microscope and 16 morphometric characters were measured to the nearest mm by using fish measuring board and digital Vernier flowing [6] and[10]. The water temperature was measured in a field "using the Yasi device produced by the German company Kalbenh origin and the concentration of salinity field" was measured using an analytical instrument produced by a German company with a pH measurement using a US-made field device Tri-meter manufactured by Kalbuneh.Usecanocc program with coloration between two species and environmental factors.Ver.11

Results and Discussion

Recorded two species for the first time in Iraqi marine waters from tilapia family *Oreochromisaureus* and *Oreochromisniloticus* is belonging to

Class: Actinopterygii
Order: Perciformes
Family: Cichlidae
Subfamily: Pseudocrenilabrinae
Genus: *Oreochromis*
O. aureus(Steindacher, 1864)
Synonyms: *Chromisaureus*Steindacher, 1864
*Chromisnilotica*Gunther, 1869

The Nile tilapia (Fig.2) distinguished by compressed body, the dorsal fine contains 78.13mm spines and Anal fin length 27.66mm (Table,1).The color of pectoral ,dorsal and coudal fins is reddish, total length 176mm ,Body depth 55.65mm,Snout length 15.75mm(Tabl,2).The total length 176mm and weight 116gm .and also salinity concentration 39.7 ppt ,PH 8.15,water temperature 18ĉ and transparency 20cm in this month.

Figure 2.General body shape of *O. niloticus* from Iraqi marine water

Table 1.Meristic characters of *O. niloticus* from Iraqi marine water

Meristic characters	mm
Scales Lateral Line	15+23
Scales above the lateral line	5
Scales below the lateral line	8
Pectoral fin rays	15

Gill rakers		31
Dorsal fin	Spines Soft rays	17 12
Anal fin	Spines Soft rays	3 9
Pelvic fin	Spines Soft rays	1 5

Table 2.Morphometric characters of *O. niloticus* from Iraqi marine water

Morphometric characters	**mm**
Total length (mm)	176
Standard length (mm)	139
Body depth	55.65
Body width	25.11
Head length	51.30
Head depth	41.61
Head depth	27.13
Snout length	15.75
Eye diameter	11.71
Interorbital distance	14.31
Dorsal fin length	78.13
Anal fin length	27.66
Pectoral fin length	54.29
Pelvic fin length	39.41
Caudal peduncle length	23.87
Caudal peduncle depth	21.48

.The Nile tilapia has historically been confused with the blue tilapia O.aureus [12].

It is one of the invasive species registered in the city of Basra and record with [6].They have a wide ,salinity tolerance, fast growth rate, are highly prolific and have a good market acceptance

. [9].While notice that the second exotic species and occurrence in Iraqi marine water *O.aureus* (fig.3),note that the meristic characters with of Gill riker 19mm (tab.3).note with in this species morphometric characters withDorsal fin length 59.46Pectoral fin length 42.01 and Pelvic fin length 30.59 (table,4).

Figure 3.General body shape of *O. aureus* from Iraqi marine water

This species of body color is dark gray in the silvery back at the abdomen. The back of the dorsal and anal fin spots that alternate with bright spots and the edges are red and the rest of the fins do not have spots.

Table 3.Meristic characters of *O.aureus* from Iraqi marine water

Meristic characters		**mm**
Scales Lateral Line		14+21
Scales above the lateral line		5
Scales below the lateral line		8
Pectoral fin rays		15
Gill rakers		19
Dorsal fin	Spines Soft rays	16 12
Anal fin	Spines Soft rays	3 9
Pelvic fin	Spines Soft rays	1 5

Table 4. Morphometric characters of *O. aureus* from Iraqi marine water

Morphometric characters	mm
Total length (mm)	129
Standard length (mm)	100
Body depth	40.36
Body width	18.40
Head length	36.69
Head depth	29.41
Head depth	19.53
Snout length	12.28
Eye diameter	9.21
Interorbital distance	9.73
Dorsal fin length	59.46
Anal fin length	17.73
Pectoral fin length	42.01
Pelvic fin length	30.57
Caudal peduncle length	14.53
Caudal peduncle depth	15.95

The large changes that appear in the aquatic environment nowadays, which led to the emergence of high salinity tolerant species This is also true [6].The high salinity recorded in this study is 39ppt. Exotic fish is one of the factors of the change in water biodiversity [1].It also leads to change reverse in the ecosystem [13].They are resistant to diseases and adverse environmental conditions such as high temperature, high salinity, poor or polluted water quality, nutrient quality and specialized teeth to deal with. These species are prevalent in inland water, deteriorating environmental conditions and lack of water releases have led to the emergence of marine waters Iraq for the first time,

Figure (4) shows that the tilapia species directly correlate with salinity have a strong positive correlation with salinity at the level of correlation of 1.2 and the association of the other phenotypic and Morphometric characters among them.

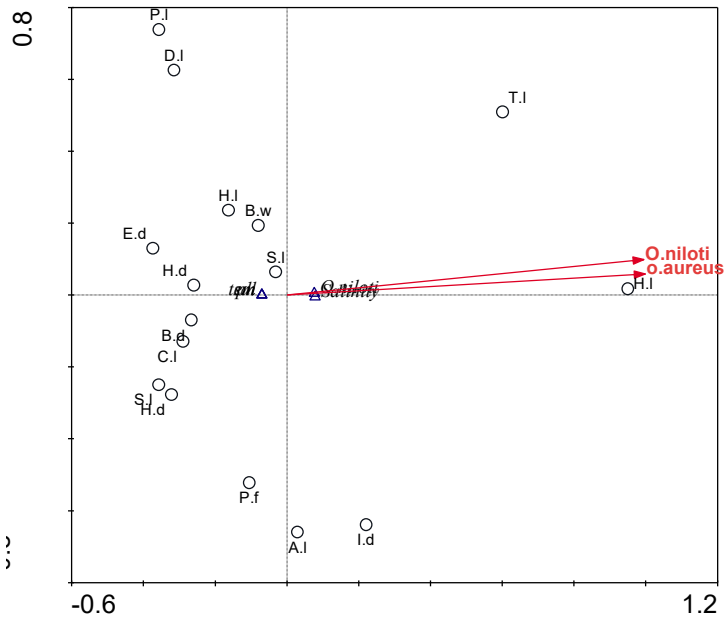

Fig. 4 coloration two species *O.niloticus* and *O.aureus* with morphometric characters

Conclusions.

The two species of tilapia *O.niloticus* and *O.aureus*of the species that can tolerate high salinity and high temperature and therefore were recorded for the first time in Iraqi marine waters..

References.

[1] Moyle, P.B. and P.R. Moyle,. Endangered fishes and economics: Internationalobligations. Environmental Biology of Fishes, 43: 29-37.1995

[2]Jones, D.A.. The biological characteristic of the marine habitats ROPME sea area. Proceeding of ROPM symposium on Regional Marine pollution Monitoring and Research Programs (ROPME/GC-4/2), pp: 71-89.1985

[3]Hussain, N.A., Ali, T.S. and Younis, K.H. Temporal and spatial movements of common fishes of the mudflats of Iraq west Arabian Gulf. J. Mar. (Mar. Res.): 5(2): 99-112.1999.

[4]Al-Sa'adi, B. A. The parasitic fauna of fishes of Euphrates river: Applied study in Al-Musaib city. M. Tech Thesis, Al- Musaib Technical collegeFaundation Technical Education. 102pp (In Arabic)**.**2007

[5] Al-Sa'adi, B.A., Mhaisen, F.T. and Al-Rubae, A.L. The first parasitological report on the redbelly Tilapia *Tilapiazillii*(Gervais,1848) in Iraq. Proceedings of the Scientific Symposium of NaturalHistory Research Center and Museum, Unvi. Baghdad, Baghdad: 20June 2012, pp: 1-7.2012

[6]Mutlak, F.M. and Al-Faisal, A.J.A new record of two exotic cichlidsfish*Oreochromisaureus*(Steindacher, 1864) and *Tilapia zilli*(Gervais,1848) from south of the main outfall drain in Basrah city. Mesop.J.Mar. Sci., 24(2): 160-170, (In Arabic).2009

[7]Corsini, M., P. Margies, G. Kondilatos and P.S. Economidis.. Lessepsian migration of fishes to the Aegean Sea: newrecord of *Tyleriusspinosissimus*(Teleostei, Tetraodontidae)from the Mediterranean, and six more fish records fromRhodes. *Cybium,* 29(4): 347-354**.**2005.

[8]Eli, A. Species in family Cichlidae (Cichlids). In: FishbaseWorldWideWeb Electronic Publication. R. Froese, D. Pauly (eds). www.fishbase.org. 2005.

[9]Altun, T., N. Tekelioglu and D. Danabas,. Tilapia culture and its Problems in

turkey. Journal of fisheries and aquatic sciences, 23(3-4): 473-478.2006

[10]Al-Faisal,A.J. and Mutlak,F.M . First record of the Nile tilapia *Oreochromisniloticus*(Linnaeus, 1758) from the Shatt Al-Arab river ,Southern Iraq.Mesopot.J.Mar.Sci 29(1):45-50p.2014.

[11]Laith.A.Jawad,Mustafa,S.Faddagh,Jaacim,Naslund,Thomas,Pohl and Mustafa.A.Al-Mukhtar. Checklist of the fishes of the newly discovered coral reef in Iraq North –west Arabian Gulf with 10 new records to the Arabian Gulf;Aqua ,International Journal of Ichthyology.2018

[12]Trewevas, E.. Tilapiine Fishes of the Genera *Sarotherodon, Oreochromis*and *Danakilia.*British Museum of Natural History, Publ.Num. 878.Comstock Publishing Associates. Ithaca, New York. 583 pp**.**1983

[13]Nyman, L.. Conservation of freshwater fish.Protection of biodiversity and genetic variability in aquatic ecosystems. Fisheries Development Series 56,Swedmar and WWF, Sweden, 38.199.