FIRST RECORD OF *Tilapia zilli* (GEWAIS,1848)IN AL-DELMJ MARSH WEAST AL-DIWANIA CITY MIDDLE OF IRAQ.

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ABSTRACT

Specimen 21 of *Tilapia zilli* were collected from AI-Delmj marsh, middle Iraq , which is located between the cities of AI-Diwania (west) and Kut (east), during Marc 2008.Morphometric and mere tic characteristics were measured to classification this species . Total length ranged from 108-138 mm . Body depth percentage to length range from 42.8- 43.35% posterior dorsal fin containing 15 spine and the posterior dorsal fin is separate from the anterior dorsal fin .Gill arch contains 12 gill rakers . Scales on the lateral line ranged from 30-33, mouth has more than one raw of strong bilateral teeth . This is the first time of *Tilapia zilli*_ species recording in AL-Delmj marsh .

Key word : First record , *Tilapia zilli* , AL-Delmj marsh .

INTRODUCTION

Tilapia belongs to Cichlidae family , is a warm water fish (Anene, 1998) mostly in Africa (SchwancK, 1987) . Currently , tilapia is at least farmed in 85 countries that makes it the most widely farmed finfish worldwide and second in Volume only to carps (FAO ,2006) . Nile tilapia (*Oreochromis niloticus*), tilapia Oriya (*O. aureus*) , Gililean tilapia (*Sarotherodon galilaeus*) and tilapia zelli (*Tilapia zilli*) are the most important species of Cichlids family (EL- Shazly ,1993). The optimal living temperature ranges between 25-30 C˚ where individuals of this family are sensitive to low temperature and death degree is less them 13 C˚ (Yousef and Goda , 1996) .Tilapias are multi – spawner during the year (King , 1994) , and there general morphological characteristics are rectangular body- shaped , covered by deep cycloid or ctenoid scales (Balarin and Halton,1979). Anterior dorsal fin has spines which is not separated from posterior one that has one spine and 13 fin-rays (Whitehead , 1962) . *T. zilli* does not incubate fertilized eggs in its mouth but guards and ventilates them until embryos hatched (Trewavas ,1983) . It has a large terminal mouth with

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thick lips , truncate caudal fin when fish is juvenile and becomes rounded in adult (Cailteux , 1988) . Generally its body color is olive or brown with 6 – 8

wide dark lines (AL-Husseini and Damian , 1974), and a black-spot on the operculum (Zain EL-dine , 1980) , and can be sexually mature at 1 – 3 months period (Dadzie and Wungila, 1980). Beckman (1962) recorded seven species in Syria belonging to *Haplochromis flavi-josephi* , *Tristramella sacra* , *T. smonies T. Magdalena* , *Tilapia galilaea* , *T. zilli* and *T. nilotica,* whereas Coad (1998) recrded *T. zilli* in Iran and Altun *et al.*(2006) recorded it in Turkey .

T. zilli was first recorded in Iraq at Musayib by Saleh (2007) . The aim of the current study is to verify the first time existence of *T. zilli* in AL-Delmj marsh

SITE DESCRIPTION

AL-Delmj marsh is a large isolated marsh placed west of Tigris river between North 32° 11¯ 09 .4¯ and East 45° 21¯ 30 .3¯ between AL-Diwania city and 35 kilometers southern east Kut city (Fig.1) . the marsh appears densed reed populations and it receives water from Main Outfall Drin (M.O.D.) and again clis charges to M.O.D. Water depth ranges from 0.5 meter in the marshy areas to more than 2.0 meters in the lake proper.

MATERIALS AND METHODS

Fish samples were collected from local fishermen in AL-Delmj marsh on March 2008 and stored in cool box filled with ice in order to reached fish samples fresh to the laboratory Samples were washed and cleaned by tap water .Morphometric and merestic measurements of fish were determined by using digital balance for weighing fish, digital vernier (nearest mm) for measuring different parts of fish body and dissecting microscope to count unbranched fin rays and measuring gill rackers and pharyngeal teeth . Under these circumstanous .

Figure 1. *Location of study area in Al-Delmj marsh in Iraq.*

RESULTS AND DISCUSSION

fish samples can be classified as *Tilapia zilli* accoreting to Boulenqer (1915) as fellows .

Class: Actinopterygii
Order: Perciformes
Family: Cichlidae
Subfamily: Pseudocrenilabrinae
Genus: *Oreochromis*
O. aureus (Steindacher, 1864)
Synonyms: *Chromis aureus* (Steindacher, 1864).
Chromis nilotica (Gunther, 1869).
Tilapia niloticus (Tristram, 1884).
Tilapia aurea (Trewavas, 1965) .
Genus: *Tilapia*
T. zilli (Gervais, 1848)
Synonyms: *Acerina zilli* Gervais, 1848
Chromis andreae (Gunther, 1848).
Chromis microstomus (Lortrt, 1883).
Tilapia magdalalenae (Vinciguerra, 1926) .

Fish body is compressed with olive . green color and green shades on dorsal fin . Mouth is terminal large , no bar bells and lips are thick with one row of strong teeth . Straight caudal fin contains yellow spots . An average . total length of fish sample was ranged 108 – 148 mm and percentages of different parts of the body to standard length were calculated (Table . l). Fish has 4 and 6 rows of scales above and under the lateral live respectively , with 31 scales on the lateral line . Table 2 shows the numbers of spines and rays in various fins of samples . Fish has 12 gill rakers (Pictures 1&2)

Table1. *Percentage of the phenotypic characteristics relative to standard length for type T.zilli in the area of marsh AL-Delmj*.

Morphometric measurement	Mean	± S. E.
Body depth	43.07	0.27
Body width	18.90	0.18
Head length	33.64	0.27
Head depth	28.32	0.19
Head width	18.75	0.09
Length of dorsal fin	55.80	0.95
Length of anal fine	17.45	0.57
Length of pectoral fine	27.67	0.87
Length of pelvic fin	29.37	0.25

Table 2. *Ratio of standard length to the morphometric measurements for type T. zilli in the area of marsh AL-Dalmj.*

Morphometric measurement	Mean
Scales in lateral line	31
Scale raw above lateral line	4
Scale raw Under the lateral under	6
Thorns in anal fine dorsal fin spines	15
Dorsal fin rays	12
Thorns in anal fine spine	3
Anal fin rays	8
The pelvic fin spine	1
Pelvic fin rays	6
Gill rakers	12

Tilapia is a widespread fish. It is one of the resistant fish against diseases and poor environmental conditions such as water quality , and low levels of dissolved oxygen (Balarin and Halton, 1979) . It is characterized by feeding natured tilapia has very specialized to teeth in order to scrape algae from rocks and crushed snails (Mazid *et al*., 1979) .

T. zilli was first time registered in Iraqi waters at Mussayab, on Euphrates River in 2007 .Therefore spread This type to AL-Delmj marsh , assuming that the water supply this marsh is from Tigris and Euphrates rivers, although the most

probability accepted on the source of entry of this species is Syria through the Euphrates River, and this reflects the role of water shared between low neighboring countries (Cailteux , 1988) that the entry of exotic fish to the local environment due to human activities or causes of accidental or the result of shared waters. Fish Sample , has rectangle and compressed body from both sides and the presence of broad lines on the body of the fish which is olive and the dorsal fin with a swab green may indicate that it belonged to *T.zilli* (Fryer and lle , 1972) .

T. zilli has olive color with a dorsal fin shaded green. Number of gill rakers is specific taxonomy of species . the results indicate the presence of 12 gill rakers on gill arch and this agree with Schereck and Moyle (1990) that declared the presence of less than 13 gill rakers on the gill arch in *T. zilli* . Krupp and Schneider (1989) described species of tilapia family in Jordan and they cleared that the length of the head in *T. zilli* between 30.2-35.2% of standard length, dorsal fin contains 15-16 spine and 12-11 soft rays, the anal fin contains three spines and 9-8 soft rays, and this is the first recording of the presence of these fish in this body of water

Picture 1. *Specimen of Tilapia zilli (Gervais,1848) collected from AL-Delmj marsh during Marsh 2008.*

Picture 2. *Gill rackers of Tilapia zilli (Gervais, 1848) collected from AL-Delmj marsh during Marsh g 2008.*

REFERENCES

AL-Husseini, A. H. and E. S. Damian, 1974. Bilogip animal operation (part ll) The classification of animal (sixth edition), House of knowledge in Egypt, 384 pp.

Altun,T., N. Tekelioglu and D. Danadas , 2006. Tilapia culture and its problems in Turkey . *Journal of fish and Aquatic Science* , 23 (3-4):473-478.

Anene ,A. 1998. Urvey of the abundance of fish of Umnuoseriche Lakein the Niger Delta floodolains, Nigeria. *J. Innov. Life Sci*. 3: 15-27.

Balarin, J.D. and J.P. Halton , 1979. *Tilapia*: A guide to their biology and culture in Africa. University of Stirling, Stirling, Scotland, UK.

Beckman,W.C.1962. The freshwater of Syria and their general biology and management . Fisheries Division Biology Branch Food and Agriculture Organization of the United Nations. Roma ,148P.

Boulenger,G. A. 1915. Catalogue of the fresh – water fish of Africa, Vol.3.*A.J. Reprints agency* , India,526P.

Cailteux, R. L. 1988. Food resource utilization by tow population of blue tilapia, *Tilapia aurea,* in north central Florida. Master.S. thesis. University of Florida, Gainesville.

Coad, B. W. 1998. Systematic biodiversity in the freshwater fisher of Iran. Ital. *J. Zool*. 65: 101-108.

Dodzie, S. and B.C.C. Wangila, 1980. Reproductive biology, length-weight relationship and relative condition of pond raised Tilapia zilli (Gervais). *J. Fish Biol.*, 17: 243-253.

EL-Shazly, A.A. 1993. Biological studies on four Cichlid fishes (*Tilapia nilotica, Tilapia galilae, Tilapia zilli and Tilapia aurea*) in lake Mariut. M.Sc. Thesis, Faculty of Sciences, Zagazing University. 145P.

FAO . 2006. Aquaculture production statistics 1997-2006. FAO, Rome, Italy. Biology and evolution. Olive Boyd, Edinburgh, P. 64.

K.L. and C.O . Hichester,1979. Growth response of *Tilapia zilli* fingerling fed is aloric diets with variable protein levels. *Aquaculture* 18,115-122.

King, R.P. 1994. Fecundity of *Tilapia mariae* in small tropical stream. Ph. D. Thesis. University of port Harcourt, port Harcourt, Rivers State, Nigeria, p. 235.

Krupp, F. and W. Schneider, 1989. The fisher of the Jordan river drainage basim and Azraq oasis. Fauna of Saudi Arabia, 10:347-416.

Mazid, M.A., Y.Tanaka , T. Katayama , M.A. Rahman , Simpson , S.K. Oni , J.Y. Olayemi, and Adegboye, J.D. 1983. The comparative physiology of three ecologically distinct freshwater fishes: *Alestes nurse* RUPEL, *Synodontis schall*. Block and Schneeide and *Tilapia zilli* Gervais. *J. Fish Biol.*, 22: 105-109.

Saleh,K.I. 2007. First recorded of *Tilapia zilli* (Gervais, 1848), in natural water of Iraq (Tigris River). The First Scientific Conference of Agricultures College, Universilty of Basra 26-27 November 2007. (Abstract).

Schereck, C. B. and P. B. Moyle , 1990. Methods for fish biology. *American Fisheries Society.* 684 pp.

Schwanck, E. 1987. Linear periodicity in the spawning of Tilapia maria in Ethiope River. Nigeria. *J. Fish Biol*. 30: 533-537.

Trewevas, E. 1983. Tilapiine Fishes of the Genera Sarotherodon, Oreochromis and Danakilia. Brotish Museum of Natural History, publ. Num. 878. Comstock publishing Associates. Ithica, New York. 583 pp.11.

Whitehead, R.A. 1962. The life history and breeding habits of the African cichlid fish Tilapia mariae and the status of T. meeki proc. *Zool London*, 139: 535-543.

Yousef, O. M. H. and A. M. Goda, 1996. Modern technologies for the commercial production of fish. Arab House for publication and distribution. Cairo. 709 pages.

Zain EL-dine, H. F. 1980. Bony fish, Dar AL-Arab Fikr. Cairo. 156 pp.

تسجيل أول لتواجد اسماك البلطي *Tilapia zilli* (GEWAIS,1848) في هور الدلمج غرب مدينة الديوانية ، وسط العراق .

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المستخلص

جمعت ٢١نموذج من اسماك *Tilapia* zilli من هور الدلمج ، وسط العراق الذي يقع بين مدينتي الديوانية غربا و الكوت شرقا خلال شهر آذار ٢٠٠٨ . أخذت عدد م القياسات المظهرية والعددية لغرض تصنيف هذا النوع . تراوح الطول الكلي بين ١٠٨- ١٤٨ ملم ، وتراوحت النسبة المئوية لعمق الجسم إلى الطول القياسي بين ٤٢.٨- ٤٣.٣٥ % . احتوت الزعنفة الظهرية ١٥ شوكة ، وكانت الزعنفة الظهرية الخلفية غير منفصلة عن الزعنفة الظهرية الأمامية ، احتوى القوس الغلصمي على ١٢ مشط غلصمي ، تتراوح عدد الحراشف على الخط الجانبي بين ٣٠-٣٣ حرشفة ، واحتوى الفم على أكثر من صف من الأسنان القوية . تكون أسنان الصف الخارجي ثنائية الرؤوس . يسجل هذا النوع لأول مرة في هور الدلمج .

الكلمات المفتاحية : تسجيل أول ، *Tilapia* zilli ، هور الدلمج .