FIRST RECORD OF *DINA LINEATA* (HIRUDINEA: ERPOBDELLIDAE) IN GREATER ZAB RIVER KURDISTAN REGION-IRAQ

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ABSTRACT

The leech *Dina lineata* (Müller, 1774) was recorded in the present study for the first time in Iraq, from samples collected on the stone from Greater Zab River west of Erbil city during a period from May to September 2006. The body was rounded with red coloration and although they move by extending and contracting its body.

Key word: Leech, *Dina lineata* , Hirudinea, Greater Zab River, Iraq

INTRODUCTION

Leeches are predominantly a freshwater group although there are many marine as well as a number of terrestrial species (Smith, 2001). They are predaceous and mostly fluid feeders, some are true blood suckers, attaching themselves to the host during feeding periods. Concerning to the class Hirudinea, it contain over 300 species of leeches, they are mostly ectoparasitic and freshwater inhabitants, while few are marine feeding upon fishes and other animals (Jordan and Verma, 2002).

The leech has long been used in medicine, although today its use is mainly limited to limb reattachment procedures instead of the wide-ranging medical use of the past. The medicinal leech was used in medieval times in Europe for certain illnesses because doctors believed that sucking out some of their patient's blood helped them to recover (Whiteley, 1971).

Leech saliva contains a number of compounds which assist in its feeding. An anesthetic limits the sensations felt by the host, and thus reduces the chance of the host trying to detach the leech. A vasodilator causes the blood vessels near the leech to become dilated, and thus provide the leech with a better supply. Also, the leech saliva contains a complex protein called hirudin, which is a highly effective anticoagulant. The leech needs this to prevent blood clots (which would block its feeding) in the wound created by its mouthparts (Whiteley, 1971).

The first information on the leeches in Iraq was given by Herzog (1969), who recorded *Piscicola* sp. from *Barbus schejch* in different regions of Iraq. Recently, four species of the leeches were added to the list of parasite of fishes in Iraq by Mhaisen (2008). Worth mentioning two species were reported from Greater Zab River namely *Fadejewobdella quinqueannulata* by Ali (2007).

The present study represent the first record of leech *Dina leaneata* in Iraqi inland water and give the important information about it.

MATERIAL AND METHODS

Greater Zab River is a large river (392 km) in Iraq. This river is one of the main tributary of the Tigris, it originates mainly from mountainous area of Iran and Turkey. It is situated between 36°-37° north latitudes and 43°-44° east longitude (Sosa, 1960).

During the present study, leech samples were collected on the stone from two sites (Khabat and Efraz), west of Erbil city, during periods extended from May to September 2006.

In the laboratory some samples were examined alive by using dissecting microscope, and the others were fixed in 5% formaldehyde for dissection and further examination.

RESULTS AND DISCUSSION

During this survey of Greater Zab River a new Hirudinea leech was recorded for the Iraqi freshwater fauna which is *Dina leaneata*.

Description: *Dina lineata* (Müller 1774) (Fig. 1):-

Body slender and dorsoventral flattened, and it is color reddish brown. Length up to 25mm, breath up to 2mm. Annulations; somites I-IV uniannuate, V biannulate, VI triannulate, VII-XXIV quin-quannulate and it consist of five annuli (b1, b2, a2, b5 and b6), b6 annuli is consistently larger than the other and divided by a shallow furrow. While, somite XXV triannulate, XXVI and XXVII biannulate. The eyes generally are four pairs, in studied samples

are three pairs, one pairs of labials on II, and two pairs of buccals on V.

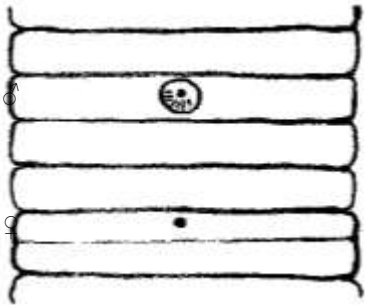
Genital pores separated by two rings; the mail pore situated on the annuli XII b_2, the female pore on the enlarged annuli XII b_6. The genital pores are separated by two annuli. Atrium with median chamber about as long as broad, the cornua large, slightly curved ventrally and the sperm ducts form simple loops.

The description and measurements of the present specimens are nearly close to those reported by Nesemann and Neubert (1999), and Mann (1952).

In addition to the two species of leeches mentioned before (*Piscicola* sp. and *F. quinqueannulata*), four other species were reported in Iraq namely: *Hemiclepsis margunata* from *Barbus sharpeyi* (Kalifa, 1985), *Cystibranchus mastacembeli* from *Mastacembelus simach* collected from Tigris river in Mosul city (Rahemo, 1989), *Piscicola geometra* from *Aspius vorax* (Mhaisen *et al*., 1997) and *Cystibranchus mammillatus* from *Mastacembelus mastacembelus* from Greater Zab River in Kurdistan region (Bashê, 2008). On the other hand, two other species; *Erobdella octoculata* and *Haemopis sanguisuga* were reported in freshwater bodies of Erbil and its suburbs by Ahmed (2009). Since there is no previous report about recording of *Dina lineate* in Iraq. The present record represents the first one in this country.

A

20X

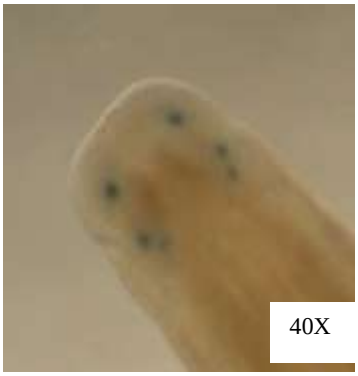


0.5mm

B

0.2mm

C



D

0.5mm

E

Fig. (1): *Dina lineate*.

A- Photomicrograph of the leech

B- A camera lucida drawing of Somite ventral with gonopores

C- Atrium (at) with cornua (co)

D- and E- Position and number of eyes

REFERENCES

Ahmed, Sh. T. (2009). Biological studies on leeches in Erbil and its suburbs. Ph. D. Thesis, Coll. Sci.., Univ. Salahaddin: 113pp.

Ali, L. A. (2007). First record of Fadejewobdella quinqueannulata (Hirudinea: Erpobdellidae) in Greater Zab River-Iraq. Zanco the Scie. J. of the Univ. of Salahaddin, 2(22): 47-50.

Bashê, S. K. R. (2008). The parasitic fauna of spiny eel ***Mastacembelus mastacembelus*** (Banks and Solanser, 1794) from Greater Zab River-Kuristan region-Iraq. M. Sc. Thesis, Sci. Edu. Coll., Univ. Salahaddin: 62pp.

Herzog, P. H. (1969). Untersuch-ungen über die parasiten der süBwasserfische des Irak. Arch. Fischereiwiss., 20(2/3): 132-147.

Jordan, E. L. and Verma, P. S. (2002). Invertebrate zoology. S. Chanda and Company LTD., New Delhi, India: 857p.

Kalifa, K. A. (1985). Leeches on freshwater farmed fishes in Iraq. J. Wild. Dis., 21(3): 312-313.

Mann, K. H. (1952). A revision of the British leeches of the family Erpobdellidae, with a description of Dina lineata (O. F. Muller, 1774), a leech new to British fauna. J. Zoology, 2(122): 395-406

Mhaisen, F. T. (2008). Index-catalogue of parasites and disease agents of fishes of Iraq, Unpubl.

Mhaisen, F. T.; Al-Khateeb, G. H.; Balasem, A. N. and Mutar, A. J. (1997). On a collection of some fish parasites from Euphrates River, Anbar province, Iraq. Babylon. Univ. J., Pure. Appl. Sci., 2(3): 267-272.

Nesemann, H. and Neubert, E. (1999). Annelida, Clitellata: Branchiobdellida, Acanthobdellea, Hirudinea. Sperktrum Akademischer Verlag GmbH, Heidelberg, Berlin: 119pp.

Rahemo, Z. I. F. (1989). ***Cystibranchus mastacembeli*** (Annelida: Hirudinea) from the Iraqi freshwater spinyback, ***Mastacembelus simach*** (Wabaun, 1792). Riv. Parasitol., 6(50) No. 1: 121-126.

Smith, D. G. (2001). Pennak's fresh water invertebrates of the United States. Johan Wiley & Sons, Inc. USA: 638p.

Sosa, A. (1960). Index of Iraq geography. Dar Al-Tamadon Publ., Baghdad: 61pp. (In Arabic)

Whiteley, D. (1971). Invertebrates. David Nichols and Johan Cooke, Oxford, UK.

اول تسجيل للعلق *Dina lineate* في نهر الزاب الكبير اقليم كوردستان–العراق

الخلاصة

تم تسجيل العلق (Müller 1774) *Dina lineata* لاول مرة في العراق من عينات جمعت من نهر الزاب الكبير غرب مدينة اربيل خلال الفترة من ايار الى ايلول 2006. وقد كان العلق اسطواني الشكل ذو لون احمر مائل للبني، ويتحرك بواسطة تقلص وانبساط الجسم.

يەكەم تۆمارکردنی کرمی زەروو (Müller 1774) *Dina lineata* لە زیێ گەورە لە هەرێمی کوردستان، هەولێر

پوختە

بۆ یەکەم جار لەسەر ئاستی عێراق کرمی زەروو (Müller 1774) *Dina lineata* تۆمارکرا لەو نموونانەێ کە لە رووباری زیێ گەورە کۆکراونەوە لە ماوەی نێوان مانگی ایار تا ایلولی 2006. ئەم کرمە رەنگی سۆر بۆخۆلە مێشی بووە و جولەشی بە رێگای گرژبوون و کشانی لەش بوو.