

RECORDING OF THE MONOGENETIC TREMATODE
SILURODISCOIDES MEDIACANTHUS (ACHMEROW, 1952) FOR THE
FIRST TIME IN IRAQ ON THE GILLS OF THE CYPRINID FISH
BARBUS LUTEUS

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ABSTRACT

This paper describes the first occurrence of the monogenetic trematode *Silurodiscoides mediacanthus* (Achmerow, 1952) in Iraq from gills of the cyprinid fish *Barbus luteus* from Diyala river, Diyala province, Iraq. The description and measurements of this parasite were given. In addition, key for the identification of the three species of *Silurodiscoides*, so far recorded from freshwater fishes of Iraq, is included.

INTRODUCTION

Silurodiscoides spp. belongs to the family Dactylogyridae, order Dactylogyridea, class Monogenea, phylum Platyhelminthes. These monogenean parasites which complete their life cycles on one host are common gill parasites infecting freshwater fishes (Dujin, 1973). They have small seven pairs of embryonic type of marginal hooks and two pairs of median hooks. Dorsal median hooks are long, generally lacking external process, usually with well-developed accessory pieces. Dorsal median hooks with unpaired dorsal connecting bar and ventral median hooks with paired connecting bar. Two pairs of eye spots present. Copulatory organ chitinoid, consisting of tube and support apparatus *Silurodiscoides* included 26 species from the previous Soviet Union freshwater fishes (Gussev, 1985).

In Iraq, the extensive studies resulted in recognition of only two species of this genus which were both recorded from gills of *Silurus triotegus*. These were: *S. vistulensis* (Siwak, 1932) which was recorded for the first time in Iraq from Tigris river in Salah Al-Dien province (Abdul-Ameer, 1989) as *Ancylodiscoides vistulensis* and *S. siluri* (Zandt, 1924) which was recorded from Hemrin lake in Diyala province (Balasem *et al.*, 2000) as *A. siluri*.

The present investigation deals with newly recorded monogenetic trematode, *Silurodiscoides mediacanthus* (Achmerow, 1952) from the gills of *B. luteus* in Iraq.

MATERIALS AND METHODS

A survey work was carried out to detect the ectoparasites of fishes sampled from Diyala river, Diyala province, during February 2010. A total of 23 freshwater fishes belonging to five species was collected and brought to laboratory. Examination of fishes for external parasites was undertaken as soon as possible. Skin, buccal cavity and gills smears were prepared and microscopically examined. Care was taken to isolate and flatten the specimens, which were then stained with aqueous neutral red and permanent slides were prepared with glycerin.

Recording Of The Monogenetic Trematode

The parasites were identified according to Gussev (1985). Drawings were done by using a camera lucida.

RESULTS AND DISCUSSION

The present investigation showed the existence of the monogenetic trematode *Silurodiscoides mediacanthus* (Achmerow, 1952) infecting the gills of three males *B. luteus* ranging from 25-30 cm. in total length. The following is a brief description and measurements of this parasite (in mm.) as shown in Fig. (1) and (2):

Large worm, length 0.07-1.01(0.54), width 0.18-0.21(0.19), length of marginal hooks 0.012-0.015 (0.013), total length of ventral median hooks 0.023-0.026(0.024), dorsal median hooks 0.098-0.011(0.054), accessory pieces 0.008-0.012(0.01) × 0.03-0.032(0.031), ventral connecting bar 0.029-0.032(0.03) × 0.02-0.027(0.023), dorsal connecting bar 0.006-0.007(0.006) × 0.03-0.032(0.031). Length of tube of copulatory organ 0.095-0.11(0.1), diameter 0.004-0.005(0.005), vaginal armor funnellike 0.01-0.012(0.011) in length.

The measurements of the present *S. mediacanthus* are agreed with those reported by Gussev (1985). The present report of this monogenetic trematode represents is first record in Iraq according to the index-catalogue of parasites and disease agents of fishes of Iraq (Mhaisen, 2010).

IDENTIFICATION KEY

The following key is constructed to differentiate the three species of *Silurodiscoides* so far recorded from freshwater fishes of Iraq.

1. Tube of copulatory organ without loops..... *S. mediacanthus*.
1. Tube of copulatory organ with loops..... 2
2. Tube of copulatory organ relatively broad, short and describing 2-3 loops in central portion, with funnellike origin, chitinous vaginal armor absent *S. siluri*
2. Tube of copulatory organ slender, long, describing numerous loops (not less than 4) in midportion with wineglasslike initial portion. Chitinous armor of vaginal duct generally present.*S. vistulensis*

Finally, it is appropriate to mention here that four other ancycrocephalid species are also known in freshwater fishes of Iraq (Mhaisen, 2010). These included *Ancyrocephalus vanbenedeni* (Parona et Perugia, 1890) from *Liza abu* from Tigris river at Al-Zaafaraniya, south of Baghdad (Mhaisen et al., 2003), *Ancyrocephalus polymorphus* (Gussev, 1955) from *Aphanius dispar* from Shatt Al-Arab river (Kadhim, 2010), *Ancylodiscoides parasiluri* (Yamaguti, 1937) from *S. triostegus* from Al-Hammar marshes (Jori, 2006) and *Bychowkyella qharui* (Tripathi, 1955) from *S. triostegus* from Al-Hmmar marshes (Jori, 2006).

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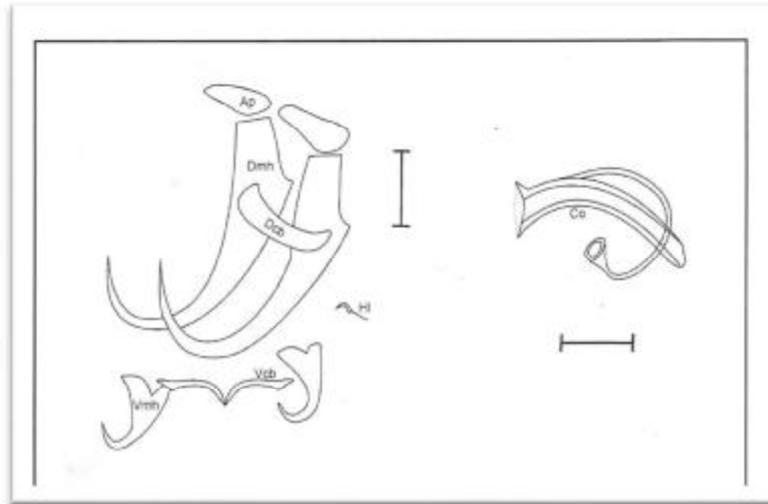


Fig. 1: A camera Lucida drawing of haptor parts and copulatory organ (Scale bar = 0.02 mm.).

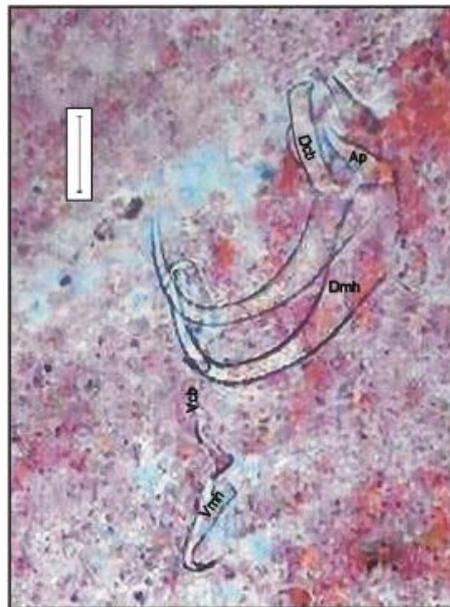


Fig. 2: Photomicrograph of haptor parts (Scale bar = 0.025 mm.).

Ap: accessory piece; Co: copulatory organ; Dcb: dorsal connecting bar; Dmh: dorsal median hook; Hl: hooklet; Vcb: ventral connecting bar; Vmh: ventral median hook.

Silurodiscoides mediacanthus from *B. luteus*

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تسجيل المخرم أحادي المنشأ

Silurodiscoides mediacanthus (Achmerow, 1952)

لأول مرة في العراق من غلاصم أسماك الحمري *Barbus luteus*

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الخلاصة

تم في هذا البحث وصف ظهور المخرم أحادي المنشأ *Silurodiscoides mediacanthus* (Achmerow, 1952) لأول مرة في العراق من غلاصم أسماك الحمري *Barbus luteus* المأخوذة من نهر ديالى في محافظة ديالى. تم إعطاء وصف وقياسات هذا الطفيلي. كما تضمن البحث مفتاحاً تشخيصياً للأنواع الثلاثة من الجنس *Silurodiscoides* المسجلة لحد الآن من أسماك المياه العذبة في العراق.