First Occurrence of *Plagioporus skrjabini* Kowal, 1951 (Trematoda: Opecoelidae) in Iraq from the Sisorid Catfish *Mystus pelusius*

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Abstract

The trematode *Plagioporus skrjabini* Kowal, 1951 was recorded in this study for the first time in Iraq from intestine of *Mystus pelusius* (Solander, 1794) which were collected from different locations along Tigris River near Al-Shawwaka region, Baghdad city. The description and measurements of this parasite as well as its illustration were given.

Keywords: Trematoda, *Plagioporus skrjabini*, *Mystus pelusius*, Tigris River

Introduction

Trematoda is one of the three classes of the phylum Platyhelminthes.The other classes are the Cestoda and the Monogenea [1]. Adult trematode (fluke) has a characteristic basic body plan, which comprises a dorso-ventrally-flattened body and suckers used for attachment. Internally the fluke's body comprises digestive, reproductive, excretory and nervous systems together with an extensive muscle development. These parasites are usually hermaphroditic [2]. Trematodes undergo asexual reproduction in a molluscan host followed by transmission to vertebrate definitive host in which sexual reproduction occurs [3]. The fish can serve both as the definitive host in which the adult fluke occurs, or as the intermediate host, which usually harbors an encysted life stage (metacercaria). Adult trematodes are primarily parasites of the digestive tract. However, some trematode families have become specialized to extra-intestinal habitats [1]. There are 5000 species of trematodes of fishes from 1115 genera. No genus contains more than 120 species and only 10 genera contain more than 50 species each. Adult trematodes of fishes live in the gut where they browse on mucus, epithelial cell and sometime blood, but a few families have adapted quite new forms of nutrition [3].

Plagioporus skrjabini Kowal, 1951 is a species of trematode which belongs to the family Opecoelidae. The life cycle of this worm has been investigated. This trematodes use the mollusk *Theodoxus fluviatilis* as the first intermediate host, sand hoppers as additional host and bullheads (*Neogobius kessleri* and *N. fluviatilis*) as definitive hosts [4].

In Iraq, the first work on fish parasites was done by Herzog, (1969) who studied 16 different species of fishes collected from different locations in Iraq and noticed 16 species of parasites, among them, one species of the trematode *Neodiplostomum* sp. [5]. After that several studies were carried out, among which some reported new records of trematode species in Iraq (6, 7, 8, 9, 10, 11, 12 and 13). According to Mhaisen [14], a total of 41 trematode species were so far recorded from freshwater fishes of Iraq and 28 trematode species from marine fishes of Iraq.

The present investigation deals with the record of the trematode *Plagioporus skrjabini* Kowal, 1951 which infected *Mystus pelusius* as no previous record on this parasite in Iraq was documented [14]

Materials and Methods

A total of 35 specimens of the sisorid catfish *M. pelusius* (Solander, 1794) were collected from different locations along Tigris River near Al-Shawwaka region in Baghdad city. Sampling was made weekly during the period from December 2014 till June 2015. The fishes were brought alive to the laboratory and freshly examined for parasites. Trematodes were removed from the intestine of the infected fishes under the dissecting microscope. Care was taken to isolate and flatten the parasite specimens which then were pressed between two slides. Worms were fixed in glycerin and stained with aqueous neutral red. Drawing was done by using a camera Lucida. Measurements of the parasites were done by using a micrometer.

Parasite identification was performed according to taxonomical accounts Bykhovskaya-Pavlovskaya *et al.* [15]. The information on the previous account records of parasites was checked by using the index-catalogue of parasites and disease agents of fishes of Iraq [14].

Results and Discussion

Out of the 35 fish specimens the *M. pelusius* one fish was infected with the trematode *P. skrjabini*. This parasite was found in the intestine of the infected fish. The following is the systematic account of the genus *Plagioporus* according to WoRMS [16]:

Class Trematoda
Subclass Digenea
Order Plagiorchiida

Family Opecoelidae
Plagioporus skrjabini Kowal, 1951

The above measurements were based on five specimens of parasites. These measurements were given as a range followed by a mean in parenthesis. The following is a brief description and measurements (in mm) of this parasite as shown in Fig. (1).
Size of body 1.25-2.25 (1.75) x 0.39-0.71 (0.55). Oral sucker 0.1-0.19 (0.14) x 0.11-0.19 (0.15), ventral sucker almost twice as large as oral 0.22-0.32 (0.27) x 0.23-0.35 (0.29). Pharynx 0.04-0.06 (0.05) x 0.05-0.07 (0.06). Esophagus short. Testes near posterior end, usually clinging together, anterior testis 0.1-0.22 (0.16) x 0.18-0.32 (0.25). Ovary at right, adjacent to anterior testis, occasionally in front of it. Genital bursa lies obliquely, curving right around sucker, its end reaching center. Egg size 0.06-0.067 (0.063) x 0.04.

The descriptions of the present *P. skrjabini* are in agreement with those reported by Bykhovskaya-Pavlovskaya *et al.* [15]. The present report of this trematode represents its first record in Iraq according to the index-catalogue of parasites and disease agents of fishes of Iraq [14].

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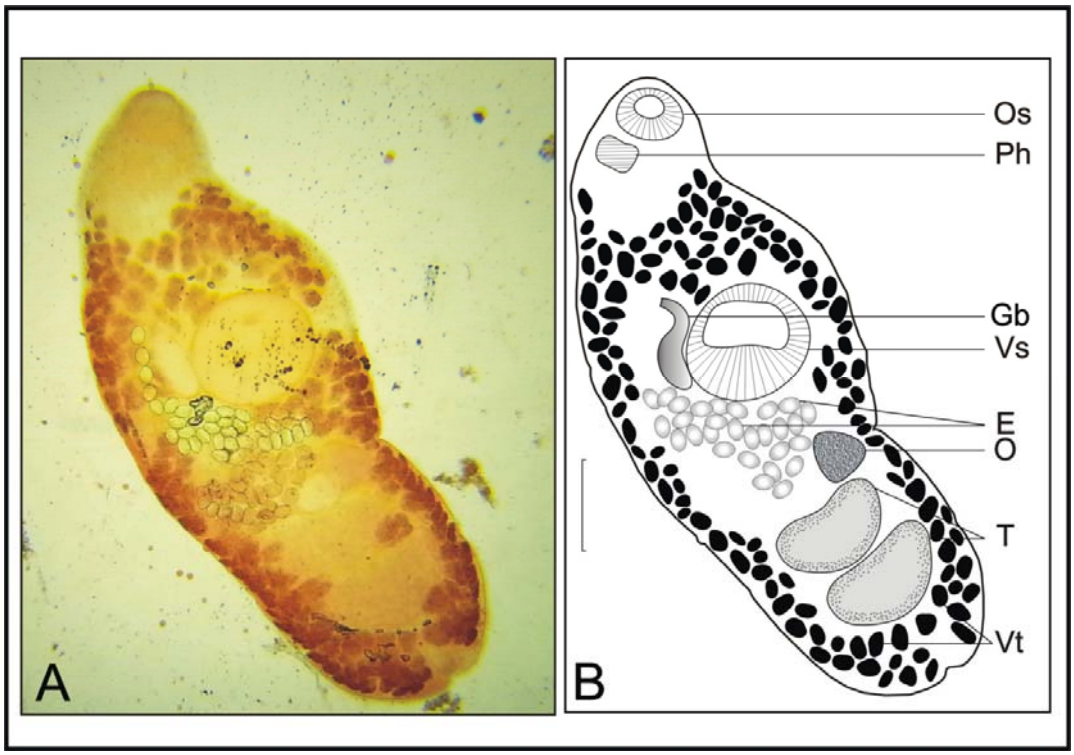

Figure(1): *Plag ioporus skrjabini* Kowal, 1951 from *Mystus pelusius* from Tigris River (Scale bar= 0.3mm.). A: Photomicrograph, B: Camera Lucida. E: Eggs, Gb: Genital bursa, O: Ovary, Os: Oral sucker, Ph: Pharynx, T: Testes, Vs: Ventral sucker, Vt: Vitellaria

الظهور الأول للطفيلي *Plagioporus skrjabini* Kowal, 1951 (صنف المخرّمات: عائلة أوبيسيليدي) في العراق من سمكة أبو الزمير *Mystus pelusius*

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الخلاصة

سجل في هذه الدراسة المخرّم *Plagioporus skrjabini* Kowal, 1951 لأول مرة في العراق من أمعاء سمكة أبو الزمير *Mystus pelusius* (Solander, 1794) التي جمعت من عدة مواقع على طول نهر دجلة في منطقة الشواكة في مدينة بغداد. تم إعطاء مواصفات وقياسات هذاالطفيلي فضلا عن الرسم التوضيحي له.

الكلمات المفتاحية: نهر دجلة، Trematoda، *Plagioporus skrjabini*, *Mystus pelusius*