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Leuciscus vorax Heckel, 1848 Fish as a New Host of Two Parasites, Crustacean Parasite *Lamproglena chinensis* and the Excysts Metacercaria *Centrocestus formosanus* Phase for the First Time in Iraq

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سمكة الشلك Leuciscus vorax Heckel, 1848 كمضيف جديد لاثنين من الطفيليات القشري الطفيلي Lamproglena chinensis و المتكيس Centrocestus formosanus لاول مرة في العراق

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ABSTRACT

It has been collect ten *Leuciscus vorax* Heckel, 1848 fishes in the period from 15/6 to 15/9, of the year 2020 C. from the Al-mashroa river which connected to the Euphrates River at Al-Musaib region, and after dissection and examine the samples it have been isolate the crustacean parasite *Lamproglena chinensis* and the Excysts Metacercaria *Centrocestus formosanus* Phase from the gill and it's isolation for the first time from this fish, then it regarded as a new hosts to the parasites above in Iraq.

Keywords: *Lamproglena chinensis*, *Leuciscus vorax*, Heckel, fish, parasite and host

الخلاصة

تم جمع عشرة اسماك شلك *Leuciscus vorax* Heckel, 1848 خلال الفترة من 6/15 لغاية 9/15 للسنة 2020 من نهر المشروع المرتبط مع نهر الفرات في مدينة المسيب وبعد تشريح وفحص العينات تم عزل طفيليين هما، القشري الطفيلي *Lamproglena chinensis* و المتكيس *Centrocestus formosanus* من الغلاصم وكان العزل لأول مرة من هذه السمكة، لذا عدت كمضيف جديد للطفيليين المذكور أعلاه في العراق.

الكلمات المفتاحية: طفيلي، لامروكلينا كاينينس، يرقة سنتروسيستس فورميسانس، قشري، مضيف، سمكة الشلك.

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INTRODUCTION

Leuciscus vorax fish has many names such as Shillig; shellej; bu aliewi; abu eliwi. Shilliig. The locality of this type is in Tigris in Mossul. Since the basin subspecies, *A. taeniatus* (67-90) the scale counts in range between European populations (65-74) of *A. aspius* and *L. vorax* which counted (82-110). Characters as key The scales, shape of its mouth and some characters serve to identify this genus. Morphology. long head, elongated mouth, reaching the enter half of the eye. Dorsal fin has 2-3 un branched rays, 7-9, usually 8, branched. Anal fin 2-3 un branched and 9-13 branched rays, modally 10 but high frequencies at 11. pelvic fin branched rays 8-9, Pectoral fin branched rays 16-18, usually 8. Lateral line scales 82-110. Its back is greenish to blackish in color but overall its silverygrey or silvery white. Fins are all pale yellow. This fish distributed in the Tigris, Euphrates river, basins in Middle East, Shatt al Arab River, the southern marshes, Diyala river and Little Zab In Iraq, and they are considered as its Habitat, its lives in this water surface. In lakes Habbaniyah, Razzazah, and Tharthar the age groups to be 5+, 6+ and 7+ respectively. 160 g one to the fourth year of life but about 331 g in year afterwards. The males was found that in the 3rd year of life at 44.2 cm and females in the 4rth at 47.2 cm its to achieve maturity, it Spawning in February at 13-14C. It was 92,000 eggs/kg body mass for fecundity. Economic importance. This fish were an important species at Syria and Iraqi fish market, [1 &2].

The parasites studies looking for infections ongoing, and there are a few of it, and mentioned for what it under hand : *L. vorax* fish, one of the freshwater fishes had been infected with many endoparasites and ectoparasites. [3] mentioned the name *ligula intestinalis* for a worm that formerly known as *Taenia intestinalis*, that the species recorded for the first time the body cavity of *L. vorax* fish.[4] found two of the protozoa, *Trichodina domerguie, Myxobolus pefeifferi* and one mollusca, *Unio pictorum*, and one of Cestoda *Bothriocephalus Opsariichthydis* from *L. vorax* fish. [5] in a study mention that this fish was infected by eight parasites, four Protozoan *M. dispar, M. dogieli, M. oviformis* and *M. pfeifferi*, two Digenea *Ascocotlye colesostoma* and *Pseudochetosoma salmonicola* and one Cestoda *Proteocephalus osculates*, and one Nematoda *Contracaecum sp*.

In a study of some fish parasites from Tigris river at Neinava they found one *Dectelogyrus vastator*, and one Cestoda *Ligula intestinalis* from this fish [6].

In the study by [7], The inspection of gills revealed the infection of these fishes with three species of monogenetic belonging to genus *Dogielius*. These species is *D. mokhayeri* from *L. voras* with a percentage incidence of infection 37.5%.

In a Study by [8] in Euphrates river he found eight parasites one protozoa *Ichthyophthirius maltifiliis* and *five* monogenea *Dactylogyrus extensus D. simplex Diplozoon pavadoxum, Paradiplozoon homoion* and *Paradiplozoon vojteui*, and one nematoda *Contracaecum* (Larve) one crustacea *Lamproglena pulchella*, one Mollusca *Unio pictorum* on *L. vorax* fish.

[9], recoreded *L. vorax* fish as a new host in Iraq for three protozon parasites, flagellates *Costia necatrix*, and the sporozoan *Myxobolus oviformis*, and the ciliated *Trichodina nigra*.

It has been recommended that the monogenea *G. derjavini* was isolated from the gill, skin and fin of *L. vorax* fish [10].

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Record of the monogenea *Dactylogyrus bocageii* from the gill of *L. vorax* fish for the first time in Iraq. [11].

The nematoda *Contracaecum sp.* and two cestoda *Proteocephalus osculates* and *Spiroxys sp.* Has been collected from *L. vorax* fish in a study in Al-Rutba Dam for the detaction of intestinal fish parasites [12].

MATERIALS AND METHODS

Samples were collecting during the period from 15 June to 15 September, 2020 C. from the Al-mashrooa river which connected to the Euphrates River at Al-Musaib region, from fishermen, it were ten fishes of *Leuciscus vorax*, it had been weighted and measured, then examined. Fishes were killed by an esthesia by cutting spinal cord and then examined for parasites funa by taking smear from skin, fins and Gills by scalpel gently carry to the slide. Gills were took and put it in a plate full with normal saline then examined under a microscope. Smears were wetted by saline drop with a needle to avoid to dry, then examine without cover side and after parasite arise the slid well be cleaned from feces and dirt then dried the smear well and but the nail polish[13] finally cover it with cover slide. All parasites were prepared in the same way. Also intestine is cut from abdominal cavity by making cut throw anal tell head then put it in a Petri dish full of normal saline then make smear from it and also examined. Parasites find were measured, then identified by comparing it with the taxonomy references and studies before. The records of new hosts for parasite were checked with the un published book of [14] by him.

RESULTS AND DISCUSSION

Fish specimens were collected, it were ten fishes of *L. vorax* it had been weighted and measured. Its length from 11.8 to 38.7 cm and weighted 9.4 to 144.6 g, respectively, the gill examined and through out examining the slides of the ten fishes noticed a crustacean parasite in six fishes smear and Excysts metacercaria found in eight of the fishes smear, The intestinal is empty of any parasites, and after looking and searching in theses and taxonomy references, the crustacean was *Lamproglena chinensis* and the *Centrocestus formosanus* phase Excysts metacercaria, then by e-mailing Pro. Dr. Mhaisen, and after he check his book, [14] the parasite considered as a new record on *L. vorax* and this fish as a new host for both in Iraq.

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Conflict of interests.

There are non-conflicts of interest.

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