

***DACTYLOGYRUS VOLFI* LUCKY, 1970 FOUND ON *BARBUS TETRAZONA* (BLEEKER, 1855) IN BULGARIA**

E. V. BORISOV*

Sofia University “St. Kliment Ohridski”, Faculty of Biology, Department of General and Applied Hydrobiology, BG – 1164 Sofia, Bulgaria

Abstract

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It has been found a new species for the helminthofauna of ornamental fishes in Bulgaria. There were examined 10 specimens. There are given the parametres of invasion. The measurements are compared with those of holotype, described by Lucky (1970).

Key words: *Dactylogyrus volfi*, *Barbus tetrazona*, monogenetic trematoda, ornamental fishes

Introduction

Exotic aquarium fish often host many parasite species that find suitable conditions for development in the aquarium environment.

This article describes the essential characteristics of a species of the genus *Dactylogyrus*, Diesing, 1980, which parasites on the gills of aquarium fish *Barbus tetrazona*. The species is described in Czechoslovakia in 1970 of Lucky, and later reported in the Czech Republic again on aquarium fishes of that species (Rehulkova and Rehulka, 1999). The aim of this study was to investigate the helminthofauna of *Barbus tetrazona* and to describe possible new species for ornamental fishes in Bulgaria.

Material and Methods

Barbus tetrazona is representative of the family Cyprinidae. The species is known as tiger barb and is distributed as an object of hobby aquaristic worldwide. It occurs naturally in ponds on the islands of Sumatra and Borneo.

In the gills of fish of this, species were found monogeneans of the genus *Dactylogyrus*.

After euthanasia of fish, they were tested using the method of full helminthological autopsy according to Bauer et al. (1981).

The found monogeneans were included in glycerol-gelatin preparation using the method of Bihovskiy (1985). They were determined to genus according to Gussev et al. (1985) and to species in comparison to the article where first described (Lucky, 1970).

Results and Discussion

Data are obtained from specimens isolated from fish farmed in the country.

The species is found in 17 of the 25 fish tested at 68% prevalence, and intensity from 1 to 37 individuals of the fish.

In relation to morphological characteristics, our specimens match the description of the species (Figures 1 and 2).

The species isolated is typical for this host and is not reported so far in our country. The star shaped scar dorsal plate is typical for this species (Figure 1B and Figure 2). Moreover, according to Lucky (1970) it possess characteristic curve at the base of the pipe organ in copulation (Figure 2B), which is well-defined.

*E-mail: emovb@abv.bg

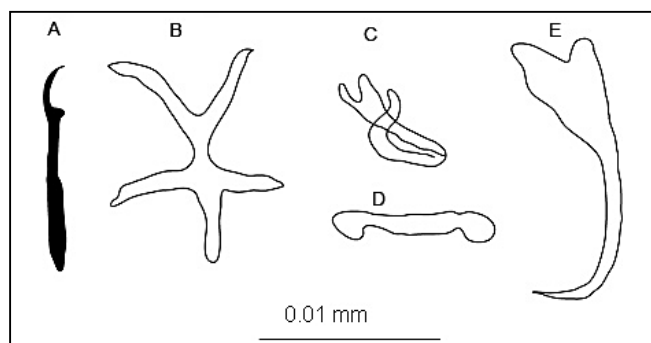


Fig. 1. Chitinoid parts of opisthochaptor and copulatory organ of *D. volfi*, isolated from *B. tetrazona*: A – hook; B – dorsal bar; C – copulatory organ; D – ventral bar; E – anchor

According to measurements we made and the subsequent data processing (ten specimens) for morphometric traits, the results are as follows in Table 1.

The measured traits (Table 1) are very close to those of the author described this species (Lucky, 1970). Lower minimum values of some of the signs are probably because in our study we used juvenile specimens of the host. This species is very close to *Dactylogyrus kulwieci* and *Dactylogyrus jamansaensis*, along with which forms a group with similar morphology, but the last two have large areas of solid parts of opisthochaptor and copulatory organ (Lucky, 1970) and cannot be confused with *D. volfi*. *Dactylogyrus kulwieci* and

Table 1

Taxonomic characteristics of *D. volfi*

<i>Dactylogyrus volfi</i>		
Taxonomic features	Variability of characteristics by Lucky, 1970, mm	Variability of characteristics by our measurements, mm
Outer length	0.030 – 0.032	0.022 – 0.029
Basic part	0.027 – 0.030	0.017– 0.027
Ventral bar	0.004 – 0.006 x 0.020 – 0.022	0.002 -0.003 x 0.017 -0.023
Dorsal bar (star-shape)	0.022 – 0.026 x 0.18 – 0.023	0.016 – 0.022 x 0.019 -0.02
Length of hooks	0.018 – 0.025	0.011 – 0.027

D. jamansaensis, which are typical for hosts *Barbus capito* and *Barbus brachycephalus*.

In this study *D. volfi* is found on *Barbus tetrazona*, which was renamed later in *Puntius tetrazona*, belonging to the genus *Puntius* (Hamilton, 1822), emitted by the larger genus *Barbus* (Cuvier, 1817). In systematic terms there are contradictions in terms of newly released genus. *Puntius* genus is often referred to as subgenus of the genus *Barbus* (Lucky, 1970). Today, it is mentioned again under both names. (Robins, 1991)

The presence of these closely related members of the class Monogenea in the above species is further evidence of the close relationship between them.

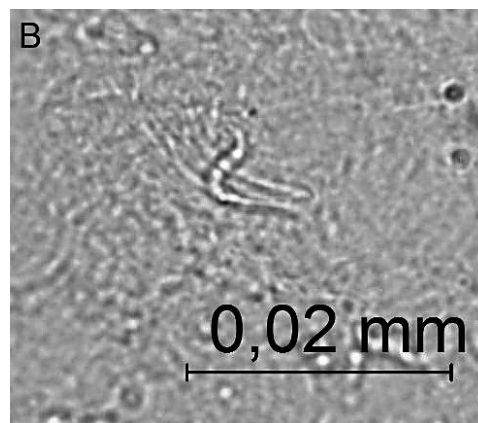
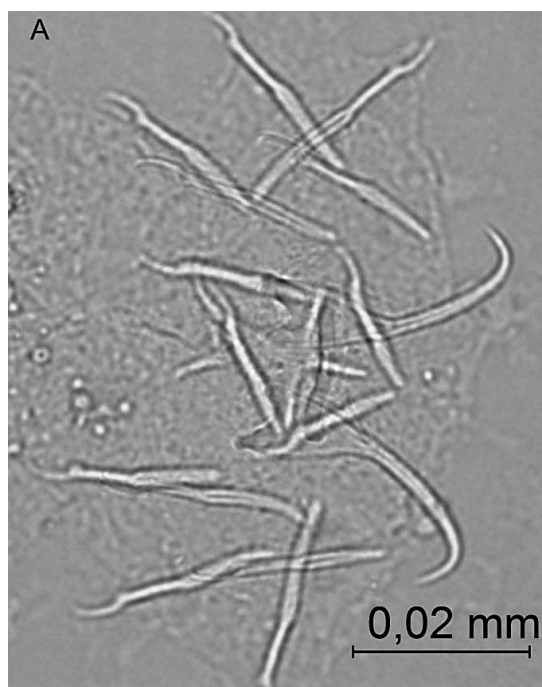


Fig. 2. Microscopic images of chitinoid parts of the opisthochaptor and the copulatory organ of *D. volfi*, isolated from *B. tetrazona*: A – anchors, hooks, dorsal bar and ventral bar; B – copulatory organ

Conclusions

Genus *Dactylogyrus* is represented by parasitic species belonging to the class Monogenea, comprising over 900 species. We describe *D. volfi* for the first time for helminofauna of ornamental fishes in Bulgaria, which enriched biodiversity in our country.

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