DEVELOPMENTAL CYCLE OF PLAGIORCHIS FASTUOSUS SZIDAT, 1924

The developmental cycle of *Plagiorchis fastuosus* Szidat, 1924 was studied in the Latvian SSR during 1970—1971. It was established that the development of *P. fastuosus* occurs with the participation of intermediate hosts, the molluscs *Limnaea ovata* and *L. auricularia* and a secondary host, *Gammarus lacustris*.

Cercaria of *P. fastuosus* is included in *Xiphidiocercaria* subgroup "*armata*". Its body is dark due to cystogenous cells, rounded, oval, with tiny spines. Length of body 0.24 mm, width at the level of ventral sucker 0.112 mm. Buccal sucker terminally situated, its diameter is 0.048 mm. Stylet with well developed lateral wings, its length 0.024 mm. Ventral sucker is always smaller than the buccal one and 0.04 mm in diameter. On each side of the ventral sucker 4 glands of penetration are situated respectively. Intestine shorter. Diameter of pharynx 0.016 mm. Excretory system has the formula 21(3 + 3 + 3) + (3 + 3 + 3) 1 = 36. There is a genital rudiment. Length of tail 0.184 mm, its basal width 0.024 mm. Numerous sensillae, discovered by silver method are arranged as follows: on the dorsal side of body, at the level of posterior margin of buccal sucker there is a transversal row of 8 sensillae, flanked yet by two groups consisting of 3 sensillae each (a total of 14 sensillae).

Above the transversal row there are two longitudinal rows of sensillae each group consisting of 7. Below the transversal row on both sides of body there are two groups consisting of 3 sensillae each, and 2 sensillae situated at the level of the middle of ventral sucker. On the ventral side of body there is numerous group of sensillae in the region of buccal sucker. Apart from sensillae, the silver method clearly reveals 4 pairs of apertures corresponding with the number of penetration glands. Below the level of buccal sucker the sensillae are arranged in the shape of two lateral rows consisting of 8 sensillae each; there are 4 sensillae on each side of the anterior part of body drawn together, the remaining 8 in the posterior part of body considerably apart from one another. The number of sensillae on the ventral sucker is constant 15. There are 2 sensillae in the central part of the tail. On lateral parts of body 24—26 sensillae are visible respectively.

In its structure and dimensions the cercaria described is related to the cercaria of *Opisthioglyphe megastomus* (Vaucher C. C. R. Acad. Sci., D. 273, N 20: 1815—1817, 1971) from the mollusc *L. peregra*.

Metacercariae of *P. fastuosus* were found in *Gammarus lacustris*. The encysted metacercariae of global form, more rarely elongated, oval. Dimensions of the cyst with invasive metacercaria 0.288 × 0.306 mm. The excysted metacercaria has a relatively short and regularly expanded body, which is 0.56 mm long and 0.192 mm wide. Buccal sucker always larger than the ventral one. Diameter of buccal sucker 0.128 mm, that of ventral sucker 0.072 mm. Pharynx 0.048 mm in diameter. There is an oesophagus. Intestinal trunks expanding almost up to the posterior part of body. Excretory vesicle Y-shaped. Genital system represented by testicles, ovary and bursa. As a rule, globe-like testicles situated diagonally to each other, often adjoining with their margins. Dimensions of the anterior testicle 0.08 × 0.072 mm, of the posterior one 0.088 × 0.072 mm. Ovary rounded, measuring 0.048 mm. It often borders upon ventral sucker, less often it is at some distance from it. Bursa situated above the ovary, usually not expanding beyond ventral sucker. In its dimensions and morphology the metacercaria described is reminiscent of metacercariae discovered by Baer (J. Baer, Bull. Soc. Neuchatel Sci. Natur. 68: 33—48, 1943), Timon-David (J. Timon-David, Libro Homenaje al Dr. Eduardo Caballero y Caballero: 329—336, 1960) and Vaucher (C. Vaucher, C. R. Acad. Sci.,) D. 273, N 20: 1815—1817, 1971) and determined as *O. megastomus* Baer, 1943. In order to determine the species to which the metacercariae found by us belong, an experimental infection of birds (*Philomachus pugnax*, *Larus ridibundus*, *Sterna hirundo*, *Aythya fuligula*) and mammals (*Mus musculus* and *Felis domestica*) was induced with the result that trematodes were developed and identified as *P. fastuosus* Szidat, 1924.

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