

## Host-parasite systems in thermally different lakes – *Viviparus contectus* and digeneans

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Temperature play an essential role in shaping the physical, chemical and biological characteristics of lakes. Therefore, any disturbance of the water temperature caused by natural or anthropogenic processes has an impact on different levels of the biological organization.

The aim of the study was to compare viviparid hosts – digenean trematodes systems in two thermally different lakes. *Viviparus contectus* were gathered from May to September 2015 from Licheńskie (TPL – thermally polluted lake) and Szymbarskie (NTL – lake with natural thermals) lakes. In the laboratory, snails were measured and weighed. The presence of digenean trematodes in snails and the assessment of the number of embryos in the uterus of viviparid females, were carried out on dissected individuals.

The total of 480 individuals of *V. contectus* were collected. Snails from the TPL were larger and more fertile than snails gathered from the NTL. 20.4% of the studied snails were infected with digenean trematodes representing 6 species (Rys. 1). The species richness of parasites was twice as high in the NTL compared to the TPL. The significant difference in the number of snails infected with parasites was identified between both types of lakes, with a higher prevalence in the NTL (31.3%) compared to the TPL (7.3%).

Our results indicate that thermal conditions of lakes affect significantly the life-history traits of viviparid hosts and the structure of host-parasite communities. Both, better feeding conditions and the longer growing season in the TPL promote larger body sizes of hosts and higher fecundity of viviparid females, while elevated temperature in the TPL may increase the mortality rate of free-living digenean stages and consequently contributes to the decrease in the prevalence.

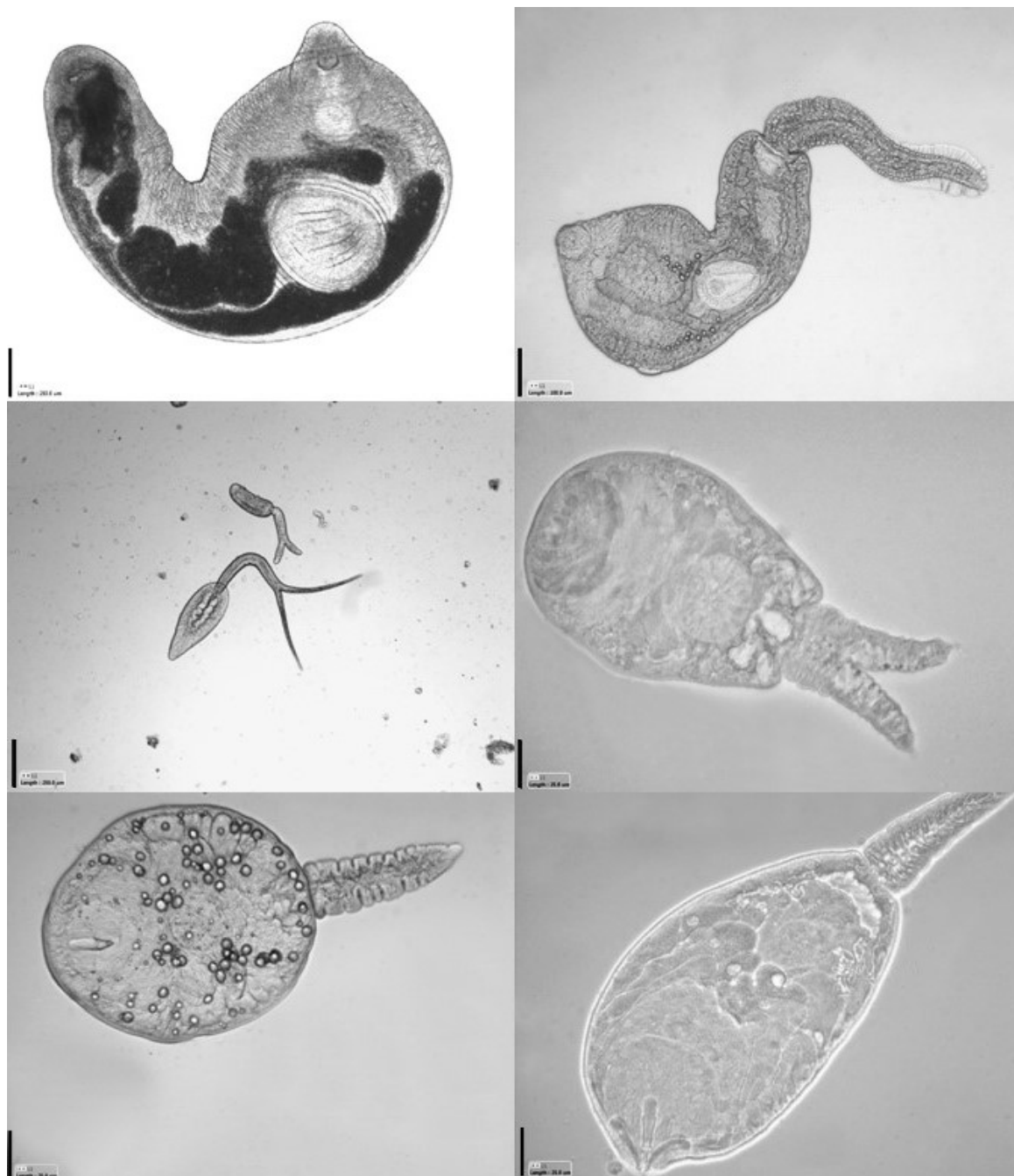


Fig. 1 Digenean trematodes of *Viviparus contectus*: A – *Amblosoma exile* Pojmańska, 1972 (250 μm); B – *Neoacanthoparyphium echinatoides* (Filippi, 1854) (100 μm); C – *Paracoenogonimus ovatus* Katsurada, 1914 (250 μm); D – *Furcocercaria* sp. B sensu Cichy and Żbikowska (2016) (25 μm); E – *Cercaria vesiculosa* (Diesing 1850) (25 μm); F – *Prosthodendrium chilostomum* (Mehlis, 1831) (25 μm).

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