

Moroz M.D., Mikhaevitch T.V. The temperature effect on the reproduction and growth indices of aqueous semi-coleopterans and bryozoans. The 6 th Congress of the All'Union Hydrobiologic Society, Murmank, 1991, pp.96-97.

Institute of Zoology of the Academy of Science of Belarus, Minsk

Increase of the numbers of the Thermal Power Plants (TPP) has caused the appearance of warm-water ecosystems, where, as a result of the eutrophication and heat press, the animals preferred cold water are replaced by heat water-preferred and eurythermic animals, with the increase of the its biomass in the new conditions.

So, in the cooling reservoir of the Bereza Electric Power Plant (EPP) the biomass of the aquatic bugs was 0,1-0,3 kg/m². The biomass of bryozoans can reach several kilograms per m² in Chizhovsky, Kanev, Uchinsky, Ivankovo reservoirs, Zmievisky EPP, Bereza EPP, Chernobyl Nuclear Power Plant.

Important role in the study of the production characteristics of the hydrobionts in the warm aquatic ecosystems plays the determination of the temperature's impact on the reproduction and growth parameters of the animals. This is especially important for the water bugs, since for these aquatic organisms such data are extremely limited, and for freshwater bryozoans are absent altogether. Studies have been shown that between the rate of oviposition (mean number of eggs laid by the females in the day) and temperature there is a functional correlation, expressed by arched curve. Also noted that at an alternating daily thermic regime females of aquatic *Heteroptera* lay approximately 2-3 times more eggs than at constant regime. Was found that the water bugs of the *Corixidae* family lay for life on average 260-270 eggs. It is interesting to note that the absolute fecundity of the studied species is almost independent of cultivation temperature (15-25°C). Dry weight of eggs at the same time remained unchanged, and the humid weight have had a little tendency to increase with increasing of temperature.

As bryozoans are the sedimentators, during the study is extremely important to consider not only the temperature but also the trophic factor. Analysis of the growth of the modular integral animals bryozoans *P.fungosa* in the gradient of the temperatures of 15-35°C, typical for the cooling reservoir, and trophic conditions 8,8-70 mg of dry seston per liter, have been shown that the maximum specific growth rate on a dry weight of food at the low food concentration (8,8-17,5) is characterized for the temperature range 30-33°C. At high concentrations of seston (70 mg of dry weight per liter) the maximum specific growth rate is characterized at lower temperature (23-27°C). The highest rate of colonial growth (0.31 day⁻¹) have been observed at 30°C and at the typical summer average seston content, 35 mg of dry matter per liter. Accordingly, at 15°C the growth rate was 0.098, at 20°C - 0.17 and at 25°C - 0.27 day⁻¹.

Thus, due to the plasticity of reproductive, growth performance and velocity of the regulation of basic vital processes, depending on temperature conditions, aquatic *Hemipterous* and bryozoans are able to create a stable population in the cooling reservoirs.