Mikhaevich T.V.
The density and the biomass of bryozoans in the cooling reservoir of
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Institute of Zoology of the Academy of Science of Belarus, Minsk.

The continental bryozoans of l’USSR, included Belarus, is poorly studied group of
animals, regarding the ecological and energetic aspects.
The mass development of the bryozoans Plumatella fungosa in the cooling
reservoir of the Electric Power Plant (EPP) have been noted from 1980. In the
1982 the bryozoans colonies have been noted in the lake Narotch, on the stems of
the Potamogeton. On the water reservoir Chizhovsky, from 1984 the bryozoans
have been covered the gratings of water supply well. The bryozoans have been
found on the water reservoirs Minsky, Ptich, and in the 1987 on the lake Drysviaty.
The density, biomass, distribution, species composition, mechanism of the
growth, nutrition, respiration and reproduction, in dependence of the
environmental factors, the function of the bryozoans in the water ecological
systems are until now unexplored.

From 1980, we have been started the systematic ecological and energetic study of
the bryozoans in the cooling reservoir of the Bereza EPP. The data of the density
and the biomass determinated during the years 1987-1988, were the basic data
for the estimation of the role of the bryozoans P.fungosa in this ecologic system.
The vegetation of the bryozoans starts in the early spring (Mars) when the
temperature in the warm channel reach about 20 °C and finishes in the late
autumn (November-December) when the temperature decreses to about 12 °C.
During the summer when the temperature in the channel reach about 30-35 °C,
the bryozoans biomass can reach several kg/m². However, the high temperature
(35-36 °C) can oppress the colonies growth. In the warm channel in the fish
ponds the bryozoans biomass can reach 1,5-2,5 kg/m².
The bryozoans role in the reservoirs is, probably, of two kinds: from one side, the
bryozoans can create the significance difficulties, growing on the pipes of the
water supply systems or in the fishponds, and from other side, the bryozoans can
be the indicator of the water purity, the biological filter of the water reservoirs
and food for fish. In the cooling reservoir of the Bereza EPP bryozoans form the
powerful biological filter. The type of the nutrition of the bryozoans is
sedimentation. The bryozoan’s funnel precipitate the blue-green alga dominated
in the cooling reservoir. In this reservoir bryozoans P.fungosa is the dominant
species in the multilevel consortium with complex trophic, topic and fabric
connections. The number of species in the periphyton depends from the
bryozoan’s density. With maximum of bryozoans biomass the numbers of
associated species can reach about 25. Abundant food and possibility for refuge
create the favorable conditions for accumulation of hydra, oligochaeta, nematode,
protozoa, larvae of chironomida, ostracoda. For this reason, the study of the
density and biomass of the bryozoans is necessary for the prognosis and
regulated formation of its growth in the reservoirs.