ABSTRACT

The Schistosomatidae family is an important group of blood flukes, including serious human and livestock animal pathogens. With regard to reproduction, they are gonochoristic parasites. Their life cycle has two stages – asexual reproduction in an intermediary host (fresh water and sea gastropods) and sexual reproduction in the definitive host (mammals and birds). With regard to their pathogenicity at the definitive hosts, the blood fluke life cycle is abundantly maintained in laboratories. To preserve the whole cycle, the intermediary host gastropods are very important, They can include, without limitation, representatives of the Lymnaeidae family. However, their sensitivity to parasitism by blood flukes varies significantly by species. Floats were classified into several genera according to various parameters in the past. The systematics was most frequently based on anatomic and morphological differences. However, the most precise taxonomies are based on molecular data and mutual phylogenetic relationships of Lymnaeidaegastropods remain a subject of research. It is a fresh water family of gastropods with specific ecological and nutritional requirements. Summary information about their ecology estimate that the float gastropods are highly sensitive to the presence of heavy metals in water, such as lead, copper and cadmium. In contrast, they belong to less sensitive gastropods to ammonia derivatives. Another abiotic factor affecting these gastropods is salinity, pH and temperature, which is related to oxygen partial pressure. The most important element is calcium which participates in the creation of shells and is a part of numerous physiological processes. Gastropods are bred in completely different conditions in laboratories, which can cause e.g. a higher mortality or reduced fecundation. Natural conditions are most frequently simulated by means of modern technologies (i.e. air compressors, water filters, artificial lighting etc.). Essential substances are delivered to gastropods both through nutrition, and in the form of chemical substitutes. Abiotic as well as biotic factors affect gastropods. One of biotic factors parasitisms by blood flukes. During the development of blood flukes in the gastropod, numerous biological, morphological and behavioral changes occur.m. Present knowledge concerning the survival of Lymnaeidae gastropods outside their natural environment are often incomplete. Their rather deal with individual factors which affect Lymnaeidae gastropods, than with their overall demands.