ABSTRACT

Environmental DNA is released genetical information from the individual to the environment. Especially in the aquatic environment, the amount of detectable DNA is sufficient to prove or refute the presence of a target organism. The method of taking samples from an aquatic environment and working with DNA is constantly evolving and bringing new insights. Especially in the area of aquatic vertebrates, very good results are found. Especially in actual researches results often correspond to reality more than traditional methods of capture. In contrast, research of an aquatic invertebrates by detection of eDNA is overlooked, especially because of eDNA production by invertebrates, which is generally much lower than fish and amphibians production. In this case the largest amount of eDNA is released in the form of mucus.

In this work I focus on properties of eDNA in the aquatic environment, biotic and abiotic factors that affect the durability of detectable DNA. I also mention the production of DNA of aquatic invertebrates, the possibilities of collection and the laboratory procedures of its processing, I compare the different approaches of the scientific teams in the referenced research and draw attention to the most frequent problems. At the end of the thesis I compare the results of the current research with the capture results, which was more or less the only possible, though aggressive, method of collecting data on aquatic organisms till the creation of this method.