



Tipo de trabalho: RESUMO SIMPLES (MÁXIMO 2 PÁGINAS)

BENTHIC MACROINVERTEBRATES AS BIOINDICATORS OF WATER QUALITY: A REVIEW¹

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Introduction. Water is fundamental to all living things. It is related to various chemical reactions and transport of substances in the human body. Unfortunately, water ends up being a vehicle for disease transmission, so the relevance of water quality to health is so important. In this way, the biomonitoring carries out activities of evaluation of the environmental quality of water bodies, using bioindicator organisms, the benthic macroinvertebrates being the group that most present results to the environmental changes. The community of freshwater macroinvertebrates is composed of organisms larger than 0.5 mm, therefore visible to the naked eye. They include species of Arthropoda (various groups), Crustacea (in particular Decapoda, Amphipoda and Isopoda), Annelida (mainly Oligochaeta and Hirudinea), Nemertinea, Mollusca (Bivalvia and Gastropoda) and some Platyhelminthes (Turbellaria) and Bryozoa. **Objective.** The objective of this paperwork was to present literature review on the use and importance of macroinvertebrates in biomonitoring of the environmental quality of water resources. **Methods.** The study sought bibliographical references in electronic databases PubMed, MEDLINE and SciELO, using the following descriptor: macroinvertebrate bioindicator. **Results.** At the PubMed, 25 papers present the requirements for review, while the MEDLINE and SciELO, present 9 and 4, consecutively. **Discussion.** The organisms used in biomonitoring include microbiological indicators capable of verifying the contamination of water bodies by human waste; among the most widely used are total coliforms and the thermotolerant, found in high concentrations in human faeces. The bacteria of the coliform group have been extensively used in the evaluation of the water quality, being to this day, the basic microbiological parameter included in legislation related about water for human consumption. The communities of benthic macroinvertebrates picture the ecological diversity of the aquatic environment because they are formed by habitat populations and varied dietary habits. This Biota responds especially well to the impacts of anthropic origin and has been used as an indicator of ecological quality for all aquatic communities by living in extreme situations and/or, when they are very sensitive to changes. However, the use of biomonitoring techniques of water bodies, through benthic macroinvertebrates, has been increasingly employed and accepted as an important tool in assessing water quality. Thus, macroinvertebrates bioindicators reflect the conservation status or degradation of the ecosystem, being effective because they present abundance in aquatic systems; low mobility; greater permanence in the environment; Wide tolerance to stressors and functionality as integrators of environmental conditions. Benthic invertebrates are among the most widely used organisms in the evaluation of anthropic impacts on aquatic ecosystems. **Conclusion.** The preference of the use of these



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organisms as bioindicators by the researchers is due to their size (visible to the naked eye), simplicity for the collections, do not require costly equipment and have long development cycle the sufficient to detect any changes. However, biomonitoring with macroinvertebrates is of great importance, because the presence or absence of certain species serves as an indicator of the long-term "status" of water quality, besides favoring, through the manipulation of food, the Improve water quality.

Keywords: zoobenthics; biomonitoramento; environmental monitoring.