Abstract

Microplastics have become a significant problem in marine ecosystems, posing a serious threat to the biodiversity and stability of these environments. This bachelor's thesis focuses on investigating the presence of microplastics in the digestive tracts of deep-sea fish in the Indian Ocean. These fish represent interesting model organisms that can aid in understanding the distribution of microplastics in the marine water column. The introductory part of the paper summarizes the existing knowledge on microplastics, their occurrence, methods of analysis and the presence of microplastics in the aquatic environment. Particular attention is paid to deep-sea fishes, whose role in marine ecosystems is crucial.

In the experimental part, detailed analyses of fish digestive tract samples were performed to detect and identify microplastics. The study confirmed the presence of microplastics in the digestive tracts of deep-sea fish, and various types of polymers were identified, including polystyrene, nylon, polyethylene terephthalate, polyvinyl chloride and polyester. This undergraduate thesis is the first study ever to demonstrate that microplastics are found in deep-sea fish in the western Indian Ocean.

The conclusions of this thesis underscore the urgency of the situation regarding contamination of the marine environment by microplastics and highlight the need to take measures to reduce the production, use and management of plastic materials. This research contributes to a better understanding of microplastics in the deep-sea environment and provides important information for the conservation and sustainable use of the oceans.