



From 16th to 23rd September 2023, I had the opportunity to be part of an expedition with “Sail & Explore Association” to the Aeolian Islands to collect samples of microplastics in surface waters, thanks to a scholarship offered by the sponsor “Mare Nostrum Association - End Plastic Soup”.



The Aeolian Islands, also known as the Lipari Islands, are an archipelago of volcanic origin located to the north of the coast of Sicily in the Tyrrhenian Sea and comprise seven islands: Lipari, Panarea, Vulcano, Stromboli, Salina, Alicudi and Filicudi, which are UNESCO World Heritage Sites.

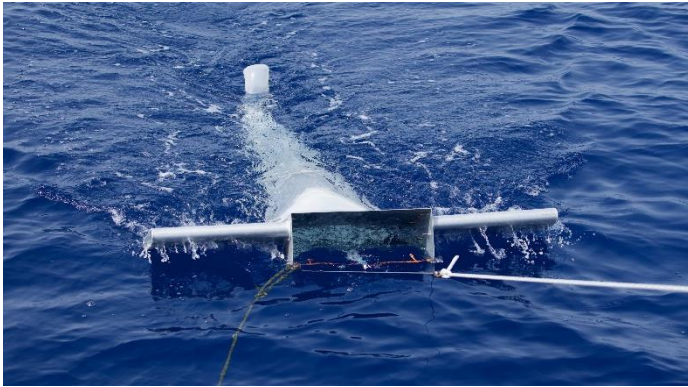
Throughout the week, I received comprehensive training on the operation of the manta trawl system for the collection of microplastic samples.

The microplastics collected ranged in diameter from 50-300 micrometers and were larger than 300 micrometers. These particles can be formed through the breakdown of larger plastic items or can be intentionally manufactured at this size for various purposes, such as in cosmetics, textiles, or industrial applications.



The presence of microplastics in the environment, particularly in the oceans and freshwater systems, has raised concerns due to their potential ecological and health impacts. Monitoring and research on microplastics are ongoing to better understand their sources, distribution, and effects, and to develop strategies for mitigation and prevention.

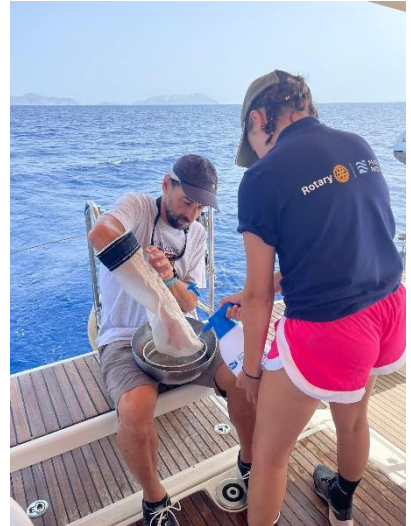
The Manta trawl system comprised two superimposed nesting components: the inner component possessed a diameter designed for the collection of microplastics exceeding 300 micrometers in size.



In contrast, the outer component featured a diameter of 50 micrometers, specifically purposed for capturing microplastics emanating from the inner filter, thus encompassing particles smaller than 300 micrometers yet larger than 50 micrometers in size.

The manta trawl system was allowed to remain submerged in the water for a duration of thirty minutes, during which it was subjected to a consistent sailboat velocity while traversing a linear trajectory.

Upon the retrieval of the manta trawl system from the aquatic environment, the two filters were meticulously cleansed with copious amounts of water, ensuring the complete removal of any microplastic particles. Subsequently, these cleaned fragments were transferred to containers for subsequent analysis within the laboratory setting.



We conducted the collection of nine microplastic samples within the vicinity of the Aeolian Islands archipelago.

During the week, I had the unique opportunity to actively participate in the collection of plankton samples, as well as their subsequent



identification, in close collaboration with a marine biologist.

This remarkable experience greatly enhanced my knowledge, as it afforded me the opportunity to study the comprehensive process of analysing marine plastics started in the chemistry laboratory during university lessons.

I also had the opportunity to showcase my skills, broaden my experience and improve my ability to work with others and to work effectively as part of a team to achieve a common goal.



Thank you for giving me the opportunity to be part of this incredible experience.

