
Microplastic pollution in the upper Ganga Riverine Ecosystems, Western Himalaya.

Neha Badola*¹ and Jaspal Singh Chauhan²

¹Aquatic Ecology Lab, Department of Himalayan Aquatic Biodiversity, Hemvati Nandan Bahuguna Garhwal University – Srinagar, Garhwal, Uttarakhand, India, India

²Aquatic Ecology Lab, Department of Himalayan Aquatic Biodiversity, Hemvati Nandan Bahuguna Garhwal University – Srinagar-Garhwal, Uttarakhand, 246174, India

Abstract

Microplastics (MPs) has invaded almost every ecosystem, however water is crucial as MPs mostly ended up in water bodies. The current study focused on MPs contamination in Ganga River, an important river in India. Surface water samples were taken at three sampling sites, Devprayag, Rishikesh and Haridwar along the study site. 1000 liters of surface water was filtered on-site using the sieve filtration method followed by the processing through the series of steps like digestion, density separation and filtration. Subsequently, the filter paper was examined under microscope to count suspected MPs particles. The counted particles were then categorized as per shape of fibers, fragments, films and clusters. The result has shown fibers, among the most abundant, contributing 78% of MPs, followed by 12% fragments, 6% clusters and 4% films. Our observations revealed that MPs are increasing in the freshwater ecosystem at an alarming rate. However, there is strong need for further study to understand the source apportionment of MPs in River Ganga in order to prevent further contamination.

Keywords: Ecosystem, Filtration, Freshwater, Microplastic, River Ganga.

*Speaker