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Composition and Distribution of Seabed Marine Litter Along Algerian Coast (Western Mediterranean)

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Abstract : The present study is focused on the distribution and composition of seafloor marine litter associated to trawlable fishing areas along Algerian coast. The sampling was done with a GOC73 bottom trawl during four (04) demersal resource assessment cruises, respectively, in 2016, 2019, 2021 and 2022, carried out on board BELKACEM GRINE R/V. A total of 254 fishing hauls were sampled for the assessment of marine litter. Hauls were performed between 22 and 600 m of depth, the duration was between 30 and 60 min. All sampling was conducted during daylight. After the haul, marine litter was sorted and split from the catch. Then, according to the basis of the MEDITS protocol, litters were sorted into six different categories (plastic, rubber, metal, wood, glass and natural fiber). Thereafter, all marine litter were counted and weighed separately to the nearest 0.5 g. The results shows that the maximums of marine litter densities in the seafloor of the trawling fishing areas along Algerian coast are, respectively, 1996 item/km2 in 2016, 5164 item/km2 in 2019, 2173 item/km2 in 2021 and 7319 item/km2 in 2022. Thus, the plastic is the most abundant litter, it represent, respectively, 46% of marine litter in 2016, 67% in 2019, 69% in 2021 and 74% in 2022. Regarding the weight of the marine litter, it varies between 0.00 and 103 kg in 2016, between 0.04 and 81 kg in 2019, between 0.00 and 68 Kg in 2021 and between 0.00 and 318 kg in 2022. Thus, the maximum rate of marine litter compared to the total catch approximate, respectively, 66% in 2016, 90% in 2019, 65% in 2021 and 91% in 2022. In fact, the average loss in catch is estimated, respectively, at 7.4% in 2016, 8.4% in 2019, 5.7% in 2021 and 6.4% in 2022. However, the bathymetric and geographical variability had a significant impact on both density and weight of marine litter. Marine litter monitoring program is necessary for offering more solution proposals.

Keywords : composition, distribution, seabed, marine litter, algerian coast
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