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## Using line transect sampling to detect cetaceans and floating litter during vessel survey in western Black Sea

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The quality of the Black Sea ecosystem is partly but importantly dependent on the survival and sustainability of the top predator populations. It is difficult to foresee all consequences for the regional biodiversity if cetaceans disappear as it had happened with the Mediterranean monk seals in the past. During 7 days, between 30 September and 7 October, 2019, a joint oceanographical survey was made with a multipurpose R/V Mare Nigrum in offshore as well as deep sea locations, within the Romanian (RO), Bulgarian (BG) and western Turkish (TK) national waters of the Black Sea in the frame of ANEMONE project. The total track line was around 700 nautical miles and the sampled area covered 9754,58 km<sup>2</sup>. Observations were made of cetaceans and floating litter, following line transect sampling method, with a single platform (2 observers, on the left and right of the vessel bridge) over 380.44 km of transects. A total of 54 cetacean sightings and 81 floating litter items were recorded. All the three species, short-beaked common dolphin (*Delphinus delphis* ssp. *ponticus*), Black Sea bottlenose dolphin (*Tursiops truncatus* ssp. *ponticus*), and Black Sea harbour porpoise (*Phocoena phocoena* ssp. *relicta*), were registered with a similar density (individuals/km<sup>2</sup>), 0.012 for RO sector and 0.013 for BG-TK sector. The number of debris varied between 1 and 24 items, reaching 5.26± 5.93 items on average. Among the transects, 53% contained less than 5 items and only 13% were with more than 10 items. Based on these results, the average density of floating macro-litter in BG waters was found 2.43 ± 2.4 items/km<sup>2</sup>, 1.73 ± 1.24 items/km<sup>2</sup> in the RO waters and 2.43±2.17 items/km<sup>2</sup> in TR waters. This study was the first to make a joint and continuous survey effort for both cetaceans and litter simultaneously in the Black Sea.

**Key words:** Black Sea, cetaceans, marine litter, joint cruise, ANEMONE project.