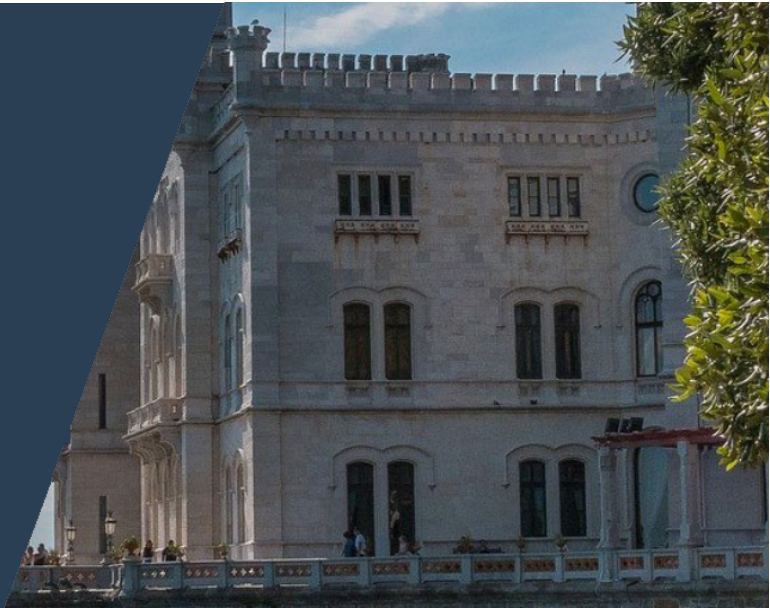


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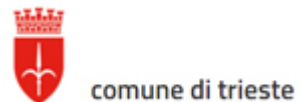
Unione Zoologica Italiana

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Book of Abstracts

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GHOST NETS AS SUBSTRATE FOR MARINE INVERTEBRATES

Fishing gears can be lost from vessels for several reasons, such as gears being lost or abandoned during or after fishing operations or very damaged gears discarded while at the sea (RICHARDSON *et al.*, 2018). When concerned with nets, these gears are called "ghost nets" and originate from fishing vessels operating both legally and illegally (KIESSLING, 2003). In the last few years, the political and social awareness of the presence and problems caused by "ghost nets" has grown considerably. In this regard, several actions such as removal of these gears from the sea bottom or removal of beached gears are promoted by governments, academics and local associations. However, during the period they lay on the marine bottom, "ghost nets" are colonized by filamentous algae in the first stage, and subsequently by encrusting, sessile and vagile organisms, such as macroalgae, bryozoans and crustaceans (RUITTON *et al.*, 2019). Afterwards, when the nets are totally colonized, their removal should be evaluated carefully. Indeed, in some cases, the removal of a "ghost net" causes not only the death of all associated organisms but can physically damage some important habitats, such as the coralligenous one. As a preliminary assessment of such biodiversity, we evaluated, through a quali-quantitative analysis the invertebrate fauna associated with "ghost nets" recovered along the Ionian coast of Sicily in 2022. A total of four different sections of "ghost nets" was recovered between Riposto and Catania, at a depth range of 12–35 m. Immediately after removal, "ghost nets" were analyzed by taxonomic experts and all associated fauna was collected using tweezers and preserved in alcohol for identification in the laboratory, under a stereomicroscope. Results showed a quite high diversity. Associated vagile fauna was dominated by crustaceans (e.g. Amphipoda –*Abludomelita* cf. *gladiosa*, *Gammarella fucicola* (Leach, 1814), *Pseudoprotella phasma* (Montagu, 1804), *Elasmopus* sp. and *Lysianassa* sp.; Decapoda –*Alpheus macrocheles* (Hailstone, 1835), *Pisidia* sp.) and, in some cases, also of polychaetes (*Eunice torquata* Quatrefages, 1866, *Hesion* sp., *Lepidonotus clava* (Montagu, 1808)). Our study underlines how "ghost nets" can also be, after a relatively long period, an important substrate for marine life. Hence, they can be used as a useful substrate for the study and monitoring of marine diversity. Indeed, "ghost nets" could attract a species assemblage and abundance that can be different from that of nearby areas. For example, a high abundance of species commonly recorded on hard or mixed substrates, such as *E. torquata*, *Hesion* sp., Hippolytidae members and *P. phasma* were sampled in a "ghost net" set on soft bottom and vertically partially suspended. In conclusion, the collaboration between authorities, organizations and experts is of fundamental importance for the correct management of "ghost nets".