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Historical Changes In Benthic Macroalgal Diversity In The Gulf Of Napl

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The conservation of marine biodiversity is a highlighted goal on a growing number of national and international policy agendas. Unfortunately, efforts to assess progress, as well as to strategically plan and prioritize new marine conservation measures, have been hampered by the progressive lack of knowledge and expertise on taxonomic diversity. An attempt to measure temporal changes in macroalgal diversity has been performed along the Neapolitan coasts (South Italy), subject to intense antropic pressures. Human activities range from dense urban settlements to industrial areas located on the coast and intense maritime traffic. Moreover, the land runoff of the heavily polluted Sarno River in the eastern part of the Gulf of Naples can influence the physical, chemical and biological quality of the coastal waters. At the same time, the area is also an internationally renowned touristic location, not only for its historical and environmental attractions, but also for swimming and leisure activities spring through fall. Consequently, the maintenance and improvement of the environmental quality of the region is a major issue not only for the welfare of the entire ecosystem, but also for social and economic reasons. A check-list of the seaweeds for the Gulf of Naples from 1878 up to now, based on literature and recent records, is presented. After nomenclature and taxonomic updating, 564 species (including 381 Rhodophyta, 110 0chrophyta and 73 Chlorophyta) have been inventoried. Since 1964, ca. 22% of species represents new records for the Gulf; on the opposite, ca. 24% have disappeared or have not been found recently. The lower percentage of cold affinity elements in the last 50 years could be related to climatic changes in the Mediterranean Sea; the increase of global trades, in particular shipping transports, seems to be responsible of a higher percentage of cosmopolitan and sub-cosmopolitan elements. Due to their sensitivity to environmental changes, the loss of habitat-forming algae (i.e. Cystoseira spp. and Sargassum spp.) is evident. Distribution of indicator species and alien taxa are considered in relation to local different anthropogenic impacts.