

## Diversity of Seaweeds and Seagrasses in the Egyptian Mediterranean Coastal Eco-Zones

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With its unique geographic location midway between Africa and Asia, Egypt is home to a good sort of ecosystems and terrestrial and aquatic life. Many plant and animal species in Egypt represent tropical and Mediterranean environments, a number of which return many years. Egypt has unique biodiversity that contributes to the economy and supports human wellbeing. Despite these obvious economic gains from biodiversity, trends from available indicators suggest that the state of biodiversity is declining and therefore the pressures upon it are increasing, despite the various national efforts taken to conserve biodiversity and use it sustainably. Biodiversity in Egypt is deteriorating at the extent of ecosystems, species and populations; and, genetic diversity is additionally declining. The losses are thanks to a variety of threats including habitat loss and fragmentation, overexploitation and unsustainable use of natural resources, pollution, invasive species and global climate change. Limited human and financial resources have also contributed to the loss of biodiversity. These pressures are continuing to extend and are themselves driven by a variety of socio-economic drivers, mainly the growing population and limited human and financial resources. global climate change will act synergistically with other threats with serious consequences for biodiversity. The Egyptian Mediterranean coastal area lies between Sallom West and Rafah East, about 1100 km, enjoying a high value and ecological variability. they provide a good sort of valuable habitats and ecosystem services that have always attracted humans and human activities. Egypt features a promising plan for the management of Mediterranean coastal area including the development of fisheries and aquaculture. Macrophytes provide the fuel of life to the coastal ecosystems. Substrates, salinity, water temperature and therefore the water transparency are the foremost important factors controlling the marine algal biodiversity. Environmental conditions are variable within the 100 m depth of the water along the Egyptian coast. it's closer to the shore to the west and therefore the distance gradually increases to the east. At Port Said, it's furthest from the shore and further east it becomes closer again. this is often caused by the alluvial fan that has built up ahead of the mouth of the Nile within the Delta area. So, the macrophyte community structures are variable. Although, there have been many works on the coastal vegetation, the marine macrophytes were scarcely and infrequently explored. Many lists had been published

from Alexandria, some from Port Said, but still the image of distribution along the western and Sinai coasts are vague. We investigated the floristic elements and vegetation types in terms of species composition also as diversity and adaptation within the different environmental conditions along the coast of Egypt on the Mediterranean. Seasonal field investigations, observations and collections of seaweeds, seagrasses and associated blue-greens were administered within the Western Egyptian coastal area (2000-2010). About 410 taxa; 30 blue greens and 380 seaweeds were encountered during this work. Comparison and analysis of knowledge collected, with occasional collections also as previously recorded data and measurements demonstrates five eco-zones for the distribution of benthic vegetation along the Egyptian Mediterranean coast. The five zones are different within the environmental conditions supporting life, reproduction and distribution of seaweeds also as their diversity. Five species of seagrasses had been encountered during this study for his or her support of life to several epiphytic algal species also because the blue greens inhabitants in their meadows. These findings helped in drawing an honest picture on the range and distribution of macrophytes in time and space, quantitatively and qualitatively. The resulted lists with the knowledge of the dominant currents gave a thought of the likelihood of migration for several species from the western basin via the Tunisian and Libyan coasts. this will contribute to the knowledge and development for best practices in managing coastal zones within the Egyptian Mediterranean. Biography Mohamed El-Said Farghaly has completed DSc in Natural Sciences from USTL Montpellier, France. He has over 40 years of experience in biological and environmental problems in tropical and sub-tropical ecosystems, pollution control and management. Being a Founder Head of Marine Science Department, Technical Advisor and Consultant, he had participated and contributed in solving many environmental problems. From 1975 to till date, he's running and conducting researches on the Mediterranean and therefore the Indo-Pacific seas with interest to the reef problems within the Red Sea and adjacent coasts. he's also a member in many scientific societies in Europe having good contact with the scientific institutions visited in USA, Australia, Europe and Arab countries. he's the author of 118 research works, scientific or environmental reports, theses and notes.

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