

Sebkhet Karkura: an example of a semi-arid Mediterranean climate wetland rich in biotic sediments Esam O. Abdulsamad Mansour M Elbabour

University of Benghazi; Libyan Authority for Research, Science and Technology





Abstract

Habitat wetlands in Libva may be grouped into several distinct varieties, according to climate, water supply, soils, and biotic diversity. They include coastal Sabkhas (salt marshes), karst lakes, Wadi estuaries, below sea-level desert lakes, and balat flats (playas) where the soil is saturated part of some rainy seasons forming a kind of ephemeral, shallow lakes in pre-desert areas. The most prominent, however, are the extensive coastal salt marshes. These have either organic or inorganic soils, or both, depending on their location and climate conditions. Soils common to most coastal wetlands are composed largely of inorganic material in the form of sand, silt, or clay; in addition to organic material formed by decayed plants and various biotic sediments. For the purpose of the present poster Sebkhet Karkura, an extensive stretch of about 50 km2 (20 km long by an average width of 2.5 km) of Sebkha/wetland formation, located about 80 km southwest of Benghazi, will serve as an example of coastal Sebkha formation. Other examples include: the much larger Sebkhet Tawurgha (over 2000 km2) and Sebkhet Melita in the west of the country, and Sebkhet al-Kuz in the east, each drained by a major Wadi and its tributaries during rainy seasons.



Sebkhet Karkura from atop sand dunes separating it from the sea.

Location of Sebkhet Karkura



Drained by Wadi al-Bab, the most southwesterly major Wadi dissecting the lower escarpment of Jabal al-Akhdar, Sebkhet Karkura receives sufficient amount of freshwater during rainy seasons.



General views of Sebkhet Karkura



Sediments of Sebkhet Karkura consist mostly of dark earth brown sandy silt with salt and gypsum. Loams, silt, gravel, and calcareous sand are also present. At the surface of the wetland, calcarenites are fairly common but sand-beach and sand-dunes are representing the major sediments along the coastal wetland area. The recent biotic components of these sediments are described and a number of recent small-sized benthic seashells, belonging to phylum mollusca, have been investigated along the coastal side of Sabkhet Karkura and several species have been identified.





Pure salt deposits extracted for processing



General view of Sebkhet Karkura

Biotic components recovered from the studied samples include several benthic macro and micro-organisms. The majority of macroorganisms, however, is belonging to phylum mollusca and includes gastropods and pelecypods. Mollusca are found normal in size and shape and moreover, they are clean, diverse and abundant. These characteristics are quite common in shallow warm water habitat free of any kind of pollutant or toxic wastes.





Sediments



Results

Generally, the distribution, diversity and abundance of the total biota recovered in this survey indicate that the local habitat of Sebkhet Karkura is rich in nutrients and consequently providing an important food source for higher invertebrates such as fishes, birds, mammals, and other living organisms. However, it is worth noting that Sebkhet Karkura, as well as other similar coastal wetlands, currently face serious threats due to human action, especially over exploitation of their resources, urban encroachments, dredging, and solid waste dumping. Increased awareness on the part of the general public of wetland ecological values and functions is essential as a preventive measure against such threats.

