



## **Recent benthic foraminiferal assemblages and sedimentary facies distribution from marginal marine environment of Abu Dhabi region (Arabian Gulf)**

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The environmental characterization of the coastline of Abu Dhabi, United Arab Emirates (UAE) has been carried out using benthic foraminifera and sedimentary facies distribution. The northern coastline of the UAE has been subjected to major construction activity that has significantly modified the coastline and the coastal sedimentary systems over the last 40 years. For the present study 150 sea-floor sediment samples were collected in different shallow-marine sedimentary environments (nearshore shelf, beach-front, channels, oolitic shoals and lagoons) around Abu Dhabi Island. During the sampling several sampling location used in studies conducted during the 1960's, prior to major anthropogenic activities, were resampled.

The identified foraminiferal assemblages consist mainly of species with a porcellaneous test belonging to the genera *Quinqueloculina*, *Triloculina*, *Spiroloculina*, *Sigmoilinita*, *Miliolinella*, *Adelosina* and *Peneroplis*. The last one is particularly abundant in samples collected seaweed. Hyaline foraminifera mostly belonging to the genera *Elphidium*, *Ammonia*, *Spirillina*, *Bolivina* and *Rosalina* are also common together with *Miliolidae* in nearshore shelf and beach front settings. Agglutinated foraminifera (*Clavulina*, *Textularia*, *Ammobaculites* and *Reophax*) are present at low percentages. Among the agglutinated foraminifera the species belonging to the genera *Ammobaculites* and *Reophax* are present only in the finest grained samples and have not previously been reported in the studied area. The coarser sediments (oolith shoal and the coarser beach front facies) do not contain living (stained) foraminifera and the dead assemblage is mostly composed of coarse sized *Miliolidae* (mainly *Peneroplis spp.*) with fragmented or abraded tests, probably transported from nearby environments.

The analysis of the foraminiferal and sedimentary facies distribution can be used in paleoenvironmental reconstruction of Quaternary sequences from this area. The foraminiferal record constitutes a taxonomical data bank on shallow-marine benthic foraminifera from the Arabian Gulf. Moreover, a comparison between our results and previous works conducted in the 1960's at the same locations shows significant changes in facies distribution, in some areas with sites formerly in lagoons now being on land.