



Mangrove foraminifera from hypersaline tidal flats on the Al-Freya Coast, Eastern Saudi Arabia

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This study documents the distribution and abundance of benthic foraminifera living under mangrove litter in a tidal flat along the Al-Freya (Jubail) coast of eastern Saudi Arabia. Ten sample stations with duplicates were collected as part of a Coastal Environments Long-Term Monitoring Program (CLTMP), which is aimed at restoring the Arabian Gulf Coast to the pristine condition that existed before the devastating oil spill that took place during the 1991 Gulf war. During the war, 10.8 million barrels (mbbls) of crude oil from 727 deliberate oil-well blowouts inflicted by the departing Iraqi army entered the Gulf marine environment resulting in massive devastation. This paper revisits two sites designated as remediation and one comparison reference site during the initial Coastal Environments - Remediation and Restoration Program (CE-RRP) conducted in 2009 – 2013. The stations are characterized as hypersaline with a 70-100 psu salinity range measured on a refractometer. Sampling was conducted in the summer of 2018, as such the top 2 cm layer temperature of the sampled sediments was also warm 27–34 degrees C. Generally, low benthic foraminifera diversities and high dominance were recorded at all the sampled stations. Among the living taxa (Rose Bengal Stained), hyaline foraminifera i.e. Ammonia, Elphidium dominated the assemblage followed by porcellaneous forms, mainly Peneroplis. This study is timely because it provides additional tool for the monitoring the progress of the remediation efforts by providing a baseline dataset for future assessment study in the area.