

Abstract

In order to identify the sources of organic matter which drive meiofaunal recolonisation of reforested *Rhizophora mucronata* mangroves in Gazi Bay, replicate azoic and organic free sediments from a natural *R. mucronata* mangrove were enriched with mangrove and sea grass leaf litter additions in similar amounts as the natural sediment organic concentration. All sediments were incubated in 70 cc syringes with open sides and top, allowing colonisation from the natural mangrove sediments in which they were buried. A control syringe filled with only azoic sediment was kept over the same time period in similar conditions. The syringes were retrieved on days 1, 14, 30 and 60 post-placement. Replicate cores were taken on the first day of the experiment (field control) so as to provide baseline data on meiofauna densities and community composition. Recolonisation occurred one day post placement and meiofauna responded more to mangrove leaf litter addition, which recorded the highest meiofauna densities by the end of the experiment. ANOVA revealed significant ($p < 0.05$) food type effect between mangrove and sea grass leaf litter especially 30 days post placement.