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Foraminiferal species densities and environmental variables of Pulicat Lake , India

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Total (Dead + live) foraminiferal species have been studied for four seasons viz., pre monsoon (July-Sept), monsoon (Oct-Dec), post monsoon (Jan-Mar) and summer (April-June) in relation to ecological variables of Pulicat Lake. Total population range from 298 to 1480 / 100 gms of sediment with an average of 615 per sample. Living crop ranges from 20 to 240 / 100 gms with an average of 86 per sample for the whole lake. The lowest L/D ratio (4.3%) was noticed at station 19 in monsoon and the highest (54.7%) was recorded at station 29 in pre monsoon. There is no much significant difference in variability for all the four seasons with co-efficient of variation (CV) ranging from 41 to 46%. Out of 50 species recorded, only 35 had living representatives, while the rest occurred as dead. The prominent stained (live) species in the decreasing importance are *Ammonia beccarii, A. tepida, Elphidium hispidulum, Quinqueloculina agglutinans, Elphidium excavatum, Quinqueloculina hadai, Q. oblonga* and *Elphidium milletti.* The coefficient correlation values for dissolved oxygen versus living fauna in monsoon (γ = 0.33) and in summer (γ = -0.26) are slightly below the significance level (γ=0.36) at 95% confidence level. A high positive correlation and a high inverse relationship have been demonstrated between salinity and microbiota in monsoon and summer respectively. With the increase in organic matter fauna decreased in diversity and abundance in both the seasons. It may be concluded that in the Pulicat Lake as a whole, the environmental conditions are moderately favorable for the growth and survival of benthic foraminifera.