

Petroleum Hydrocarbons Accumulation Potential of Shellfishes from Littoral Waters of the Bight of Bonny, Niger Delta, Nigeria.

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- **Abstract:** Total hydrocarbons concentration in four commercially available shellfishes (*Ocypoda africanus*, *Macura reptantia*, *Procambarus clarkii* and *Penaeus notialis*) from coastal waters of the Niger Delta region of Nigeria were investigated between June 2003 and February 2004 using standard methods. Levels of total hydrocarbons varied significantly depending on biota species, feeding habit and season. The seasonal mean concentrations reported were: 3.98 ± 0.69 , 7.95 ± 1.18 , 2.24 ± 0.39 and 5.85 ± 0.57 $\mu\text{g g}^{-1}$ dry weight for *M. reptantia*, *O. africanus*, *P. clarkii* and *P. notialis* respectively during the wet season. Enhanced concentrations recorded during the dry season were 7.81 ± 2.32 , 11.59 ± 2.63 , 6.16 ± 2.12 and 9.69 ± 1.90 $\mu\text{g g}^{-1}$ dry weight for *M. reptantia*, *O. africanus*, *P. clarkii* and *P. notialis*, respectively. The results obtained indicated seasonal variations which might have been associated with an incidental crude oil spill recorded during the investigation. In general, *O. africanus* showed higher levels of total hydrocarbons than other species investigated. However, biota species demonstrated hydrocarbon bioaccumulation potential. Regression between the monthly concentrations of total hydrocarbons in each of the biospecimens with the levels in the surface water and sediments indicated statistically significant ($p < 0.05$) relationships. Moreover, comparison of the seasonal mean concentrations using paired sample t-test at 95% confidence level indicated that the concentrations between the dry and wet seasons were statistically significant.
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