**Title of Article:** Distribution of Chlorinated Pesticides in Shellfishes from Lagos Lagoon, Nigeria

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**Abstract:** Shellfishes namely *Ocypoda africanus*, *Penaeus notialis* and *Procambarus clarkii* were collected from Lagos Lagoon and analysed for chlorinated pesticides because they are the most abundant group of aquatic sediment macro-fauna within tropical areas and have the capability to concentrate in their tissues pesticide residues from sediments and water. Sampling was conducted between December 2008 and September 2009 during the dry and wet seasons. The shellfishes were subjected to cold extraction with petroleum ether/acetone (1:1 v/v) mixture and clean-up on silica gel adsorbents. The samples were analysed for aldrin, dieldrin, endrin, DDT, heptachlor, HCH, endosulfan, chlordane and methoxychlor. The detection and determination of the pesticide residues were performed by gas chromatography. The total detectable concentration of chlorinated pesticide residues (wet weight) of the muscle tissues of the shellfishes ranged from 6.47 ng/g to 4516.71 ng/g in *Procambarus clarkii.* The pesticide residue distribution pattern in their muscle tissues were in the order: *Procambarus clarkii > Ocypoda africanus > Penaeus notialis*. The male shellfishes accumulated higher pesticide levels than the female shellfishes. The residue levels were higher in the Lagos Lagoon than in Agboyi Creek while a higher concentration of the residues was observed during the dry season. Except for endrin and heptachlor, the estimated daily intakes of the pesticides were within the acceptable daily intakes as established by experts while the levels of residues in the shellfishes were within the permissible residue limits.