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A comparative study of the decomposition of *Rhizophora racemosa* and *Nypa fruticans* of the Cross River Estuary, Nigeria

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Mangroves are specialized marine ecosystem which is highly productive. They act as shelter, breeding and nursery grounds for a variety of marine and brackish water invertebrates and fishes. Some of the dominant plant species in mangrove vegetation of Nigerian coastline are *Rhizophora* sp and *Nypa fruticans*. Studies were conducted on the decomposition of *Rhizophora racemosa* and *Nypa fruticans*. The objective was to compare their decomposition rates and proffer informed management decisions. Decomposition rates of the two species were monitored for 112 days using litter box experiment. Ten litter boxes were stocked with 20g of leaves of each species in the Cross River Estuary. The leaves were monitored fortnightly with two boxes containing the respective species of leaves being removed for examination of the dry matter, carbon and nitrogen contents. The initial values of dry matter, nitrogen and carbon in the *Nypa fruticans* were 12.54g, 2.26% and 29.99% respectively, while the initial values for the dry matter, nitrogen and carbon for *Rhizophora racemosa* were 10.70g, 1.12% and 26.62 % respectively. There was no significant difference in the rates of decomposition of *Rhizophora* and *Nypa fruticans* leaves ($p \geq 0.05$) even though *Nypa fruticans* showed slightly higher rate of decomposition than *Rhizophora*. The linear relationship between the loss in dry matter and number of days were expressed as $Y = 10.1 - 0.080x$ in *Nypa fruticans*, and $Y = 9.0 - 0.073x$ in *Rhizophora* sp. It is concluded that the argument in favour of the eradication of *Nypa fruticans* for the thriving of *Rhizophora* is inaccurate. *Nypa fruticans* indeed very rich in dry matter, carbon and nitrogen and is likely to contribute to the detritus food chain in the event of leaf litter more than *Rhizophora racemosa*. Containment of the population rather than eradication is the logical strategy for the management of the riparian vegetation in the face of climate change.

Biography

Daniel Ama-Abasi is Associate Professor of Fisheries and Aquaculture in Institute of Oceanography, University of Calabar, Calabar, Nigeria. He is a Fulbright Scholar and a two-time recipient of International Foundation for Science Research Grant, Sweden. He has published over 26 peer reviewed articles in International, Regional and local journals His research interest is in Marine Ecology, Marine Fisheries Resources and Management and mangrove Ecosystem of the Cross River Estuary. He is currently working on the reproductive ecology, management and domestication of *Chrysichthys nigrodigitatus*, in the Cross River System, Nigeria.

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