

Survey and biodiversity identification of mangrove ecosystem in Lagos Lagoon and eastern part of Badagry Creek, Nigeria

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Abstract

Mangroves are salt-tolerant characteristic complex plant communities occurring in sheltered coast line areas in the tropical and sub-tropical inter-tidal regions of the world such as bays, estuaries, lagoons and creeks. Study was carried out on the survey and identification of mangroves in Lagos Lagoon in 2010. Global Positioning System (GPS) and other relevant equipments were used to determine the geographical coordinates, abundance and distribution of mangrove species within the study areas. Seven stations (Ebute Oke, Majidun, Badore, Langbasa, Agbeki, Bayeku and Oreta) and three stations (Okun Akaraba, Okun Ilase and Okun Ibese) were selected in Lagos Lagoon and Badagry Creek respectively. All these stations were closed to coastal communities except Bayeku and Agbeki that were found on the middle of the Lagoon. The analyses on physico-chemical parameters of the water samples from these stations revealed that the salinity range between 0.3‰ (Majidun) and 14.0‰ (Okun Ibese) and conductivity ranged between 5.69 mS/cm (Agbeki) and 23.5 mS/cm (Okun Ibese). Low transparency was recorded for all the stations which were an indication that mangrove trees can be found at low water depth. All these stations were alkaline (pH > 7) in nature. According to APG 111 taxonomy classification of mangrove species, red mangroves (Rhizophoraceae) and black mangroves (Acanthaceae) were mostly present in all these stations with red mangroves (*Rhizophora racemosa*) dominating in the North. Also discovered along the Lagoon is Nypa palm (*Nypa fruticans*) which was scantily found. Mollusks like periwinkles (*Tympanotonus fuscatus*) and oysters (*Crassostrea* sp.), crustaceans like purple mangroves crab (*Goniopsis pelii*) and fish fauna like Tilapia (*Sarotherodon melanotheron*), mudskipper (*Petriophthalmus barbatum*), red snapper (*Lutjanus goreensis*) and *Mugil cephalus* were found at bottom and wall of the mangrove trees. Economics activities that surround these communities are fishing, aquaculture (acadja), sand mining, dredging, logging and shipping and urban development that had led to the destruction of mangrove ecosystem in this lagoon.

Keywords

GPS, red mangrove, black mangrove, white mangrove, *Nypa fruticans*