Macrobenthos assemblages in Cameroonian mangrove forests. First evidence from the Wouri estuary, Douala

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Abstract

West African mangrove macrobenthos are understudied compared to other mangrove systems. Few studies address a comprehensive and inclusive monitoring of macrobenthos assemblages of these systems. Here, we aim to fill this gap by focusing on the Cameroonian mangroves surrounding Douala City in Wouri estuary. This forest is one of the largest systems along the West African coast and is probably also one of the most impacted given the vicinity to the fast developing Doula City often clearing mangrove trees for land use. We studied macrobenthos through a survey carried out at two sites near Douala city: Wouri bridge (WB) and Bois de Singes (BS). We used visual census focused on two of the main components of macrobenthos: crabs and molluscs. We identified the vegetation belts present in the mangrove and adjacent mangrove-associate vegetation where mangrove macrobenthos were present: three belts dominated respectively by *Avicennia* sp., *Pandanus* sp. and *Rhizophora* sp. in WB forest, and only one dominated by *Rhizophora* sp. in BS forest. Observation plots were made along these vegetation belts in order to characterize them at macrobenthos level. Several sesarmid species among crabs occurred in these belts and represented the genera *Perisesarma*, *Chiromantes*, *Metograpus*, *Armases* and *Sesarma* as well as two species of gastropods: *Pachymelania fusca* and *Tympanotonus radula*. No ocypodid crabs were found, which is in contrast with their presence in the East African mangrove systems. We also detected a crab species not yet described. Differences in macrobenthos assemblages were recorded between vegetation belts and sites, the latter probably due to different positions and age of the forest. For the mangrove associated *Pandanus* belt we recorded the highest presence of the crab *Chiromantes buettikoferi,* possibly a phytothelmic species since they seem dwell on leaf axes of *Pandanus*. This work represents one the first descriptions of macrobenthos assemblages for Cameroonian mangrove forest.

Keywords

mangrove macrobenthos, crabs, molluscs, Cameroon, Wouri estuary