

Vegetation structure of mangroves in the Rio del Rey estuary (Cameroon)

G.L. Essomè-Koum¹, N. Din¹, A. Nfotabong Atheull^{1,2}, V.M. Ngo-Massou¹ & R.J. Priso¹

¹Department of Botany, Faculty of Science, The University of Douala. P.O. Box 8948 Douala Cameroon. E-mail: essomekoum@yahoo.fr

²Laboratory of Complexity and Dynamics of Systems Ecology and Resource Management, c/o Département de Biologie des Organismes, Faculté des Sciences, Université Libre de Bruxelles – ULB, CP 169, Avenue F.D. Roosevelt 50, B-1050 Bruxelles, Belgium.

Abstract

Mangrove forests in Cameroon are mainly concentrated in two areas. If the Cameroon estuary has already been studied by many authors, that's of the Rio del Rey is not. Because of the border conflict between Cameroon and Nigeria, the vegetation characteristics are not well known as very few field data collection were carried out in the area. The objective of this study is to contribute to the knowledge of the vegetation structure of mangroves of the Rio del Rey estuary. The research was conducted in seven localities (Andokat, Bamusso, Kombo'a Mukoko, Masaka, Meme, Mukala Tanda and Ngosso) in the Ndian subdivision. The transects were established perpendicular to the main tidal channels and the Nearest Neighbour method through plots of $20 \times 20 \text{ m}^2$ assessed the floristic composition and structure parameters of the vegetation. A total of 18 species, equal for genera have been identified belonging to 9 families and the locality of Meme is the most diverse. The most frequent species are *Acrostichum aureum*, *Dalbergia ecastaphyllum*, *Nypa fruticans* and *Rhizophora racemosa*. Also, *Rhizophora* spp. represents 83.49% and *Avicennia germinans* 14.83% of timber individuals inventoried. The diameter of the trees varies from 3.82 to 102.50cm, the absolute density of 144 to 2108 ind/ha, basal area of 7.03 to 52.34 m^2/ha and height of 3.82 to 37m. Statistical analysis of size distribution by the Newman-Keuls test showed significant differences between some localities that may be assigned to the topography, environmental parameters and to a lesser extent to human activities. The study parameters indicate a good degree of stand development.

Keywords

accompanying species, floristic composition, Ndian, nearest neighbour method, parameter structure