

MANGROVE FOREST STRUCTURE ORGANISATION IN A MONOSPECIFIC STAND OF THE BLACK MANGROVE *AVICENNIA GERMINANS* (L.) STEARN IN THE CAMEROON ESTUARY

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One of the major components of forest stand structure is the spatial arrangement of tree positions and the distribution pattern of species. *Avicennia* (Acanthaceae) is considered an important colonizer of new areas. This genus comprises about eight species of which only one, namely the Black mangrove *Avicennia germinans*, occurs in Cameroon mangrove forests. Through extension its complex of pneumatophores this species causes solidification of the soft substrate, hence facilitating the stabilization of coastal zones. In spite of this ecological importance, little is known about the patterning of *A. germinans* forest stands. In this contribution, we characterized the stand structure of this species in the Wouri Estuary (Cameroon). We located two sites in the landward margin and one on the seaward edge. There, we established 20 plots of 40m×40m along belt transects, and subdivided each plot into 16 subplots of 10m×10m. We measured the diameter, height and spatial coordinates of all *A. germinans* stems and finally determined the type of spatial arrangement of trees based on the number of stems counted in each subplot. Our results showed that the mean tree diameter, basal area and height were considerably higher on the seaward edge than in the landward margin, and with few exceptions, the spatial arrangement of *A. germinans* trees was commonly clumped. These different patterns were consistent with the map resulting from the recorded spatial coordinates. On one hand, the clumped spatial arrangement of trees could be due to the fact that seedlings of *A. germinans* are often dispersed over greater distances by tidal action (seaward edge), while on the other hand, the same pattern might be attributed to their capabilities of settling close to the senescent tree in less flooded areas (landward margin). Moreover, when seedlings are trapped by the pneumatophores, this can lead to a random distribution sometimes recorded in the two different locations. In addition to our findings, it is important to develop a more complete characterization of the stand structure of *A. germinans*. We believe this objective can be achieved by analyzing endogenic organisation processes that occur within the growing environment of this species.