

Distribution and dynamics of a tropical waterfalls ecosystem



Waterfalls gives the impression of a lifeless zone because researchers have historically focused on the hydrology, ecotourism and geological features. Effective management will require an understanding of changes in species composition and distribution of macro-biota. Monthly samples were taken in wet and dry seasons, over two year period in three regions along the 6817.7 m length of the Agbokum waterfalls. Macro-biota exhibited distinct pattern in respect of seasonal and spatial changes. *Trachelomonas volzii*, the most abundant phytoplankton species reduced from 686 in the dry season to 143 in the wet, and from 455 downstream to 91, midstream (waterfalls region). Zooplankton species *Calanus finmarchicus* decreased from 511 during dry season to 36 in the wet and from 334 downstream to 7, midstream. 71.7 percent of the total macro-invertebrates were recorded from downstream reaches while only 6.3 percent were contributed by midstream. Percentage cover of marginal vegetation by *Bambusasp*, *Symphonia* and *Elaeis guineensis* displayed progressive increase from upstream reaching a maximum of 38.5 mean percent cover in the relatively undisturbed downstream. In contrast, *Raphia vinifera*, *Havea brasiliensis*, *Grewia* sp. and *Cocos nucifera* shrank in size from 34% to 8% at the midstream stretches of the river while only nymphia- rich vegetation becomes more frequent in the middle reaches. The disturbance regimes of the midstream reaches of Agbokum waterfalls combined with its very low faunal and floral diversity has made the environment unstable therefore susceptible to the invasion of disturbance tolerant biota.

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