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Plant Community and Vegetation of Nandi Forest, Western Kenya

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Abstract

This study focuses on the description of plant communities and vegetation of South and North Nandi Forests in western Kenya. A total of seventy six 20 by 20 metre plots from both forests were used to collect vegetation and environmental data. These plots were distributed 100 meters apart along transects of 1 km to 1.6 km length and the distance between transects is 500 m. All woody plants greater than two cm diameter at breast height (DBH) and taller than 2 m were measured using diameter tape and hypsometer respectively. Herbaceous plants and seedlings of all woody plants were recorded in five three by three m plots within the bigger plot, at the four corners and the centre. The height of the seedlings was measured using marked stick. Each plant was identified at species level when first encountered in the forest. For those plants which were difficult to identify in the field, voucher specimens were collected, pressed and later identified at herbarium. Multivariate statistical analysis method was used to analyse the data. Cluster analysis and ordination were undertaken using PC-ORD. In this study a total of 320 plant species from 100 families and 242 genera were identified. Tree species accounted for 25 % shrubs, herbs, climbers and epiphytes comprised 15.9, 35.5, 18.0 and 5.0 % respectively. The cluster analysis coupled with indicator species analysis resulted in three different plant communities. The species check-lists resulting from this research is the first of its kind for Nandi forests. This study aims to contribute to the conservation and development endeavour of this valuable tropical forest.

Keywords: Cluster analysis, description of vegetation, Kenya, Nandi forest, ordination, PC-ORD, plant community