

SPECIES DIVERSITY, POPULATION STRUCTURE AND REGENERATION STATUS OF WOODY PLANTS IN YEGOF DRY AFROMONTANE FOREST, NORTH EASTERN ETHIOPIA

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ABSTRACT

The study was conducted in Yegof forest, northeastern Ethiopia to investigate the floristic diversity, population structure and regeneration status of woody species. Systematic random sampling method was employed to collect the vegetation data. A total of 40 plots, measuring 20m x 20m, were sampled along line transects following the altitudinal gradient. In each plot, all woody species were identified, counted, and height and diameter at breast height (DBH) were measured and recorded. A total of 76 species of plants belonging to 66 genera and 43 families were recorded in the study area. Out of these plant species, 10 (13.2%) were trees, 15 (19.7%) tree/shrub, 39 (51.3%) shrubs, 8 (10.5%) climbers and 4 (5.3%) herbs. Fabaceae was the dominant family represented by 9 species (11.84%) followed by Rhamnaceae and Oleaceae 4 species each (5.26%) and Anacardiaceae and Lamiaceae 3 species each (3.95%). 15 families were represented by 2 species each (2.63%) and 23 families were represented by 1 species each (1.32%). The diversity and evenness of woody species in Yegof forest were 2.26 and 0.57, respectively. The total density and basal area of woody species in Yegof forest were 1768.13 individuals ha⁻¹ and 15.85 m² ha⁻¹, respectively. The results on DBH class distribution and important value index (IVI) suggest that species with poor reproduction and recruitment status as well as low IVI values need to be prioritized for conservation activities.

Keywords: Conservation, Floristic composition, Plant diversity, Regeneration, Yegof forest.